PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
ARP2591

PROJECTION MONITOR RECEIVER

SD-P5067-Q KUX1C
SD-P5567-Q KUX1C

- **Refer to the service manuals ARP2564 for Electrical information, ARP2565 for Mechanical information and ARP2566 for Adjustment information.**
- **This manual is applicable to the following : SD-P5067-Q/KUX1C ; SD-P5567-Q/KUX1C.**

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *Parts marked by ☆ are important parts which relate to X-rays radiation.*
  If any of these parts need to be replaced, always replace with specified parts.

1.1 SD–P5067–Q/KUX1C

SD-P5067-Q/KUX1C and SD-P5065-Q/KUX1C have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		SD-P5065-Q/KUX1C	SD-P5067-Q/KUX1C	
	W FRONT CONTROL assembly	AWZ4189	• • • • •	
	FRONT CONTROL assembly	• • • • •	AWZ4232	No. 1
	RECEIVER assembly	AWZ4190	AWZ4233	No. 2
	FRONT TERMINAL assembly	• • • • •	AWZ4234	No. 3
	Indicator panel	AAK2192	• • • • •	
	Control sheet	AAK2342	• • • • •	
	Door	AAN1325	• • • • •	
	Door assembly	• • • • •	AAN1347	No. 4
	Screen frame assembly (50AQ)	AAP1263	• • • • •	
	Screen frame H (50)	• • • • •	AAP1118	No. 5
	Screen frame V (50)	• • • • •	AAP1119	No. 6
	Screw	ABZ30P100FMC	• • • • •	
NSP	Cushion (For screen)	AEC1300	• • • • •	
NSP	Cushion (For cabinet)	• • • • •	AEC1259	No. 8
NSP	Sheet	• • • • •	AED1114	No. 9
	Corrugated paper spacer	• • • • •	AHB1071	For packing
	Under carton (50)	AHD2302	AHD2331	For packing
	Upper carton	AHD2321	• • • • •	For packing
	Upper carton (50)	• • • • •	AHD2330	For packing
NSP	Packing sheet	• • • • •	AHG1166	For packing
	Side panel assembly	• • • • •	AMB1698	No. 10
	Control panel	AMB1793	• • • • •	
	Front panel assembly	• • • • •	AMB2010	No. 11
NSP	Back cover panel	AMM1742	AMM1934	No. 12
	Grille A50 assembly	AMR2368	• • • • •	
	Grille R50	• • • • •	AMR2436	No. 13
NSP	Fixing holder assembly	• • • • •	ANG1144	No. 19
NSP	Fixing holder assembly	• • • • •	ANG1380	No. 20
NSP	Upper metal frame	ANG1663	• • • • •	
NSP	Frame upper holder A	ANG1684	• • • • •	
NSP	Frame upper holder B	ANG1685	• • • • •	
NSP	Frame under holder	ANG1686	• • • • •	
NSP	Frame holder	ANG1687	• • • • •	
NSP	Guide pin	• • • • •	ANL1026	No. 21
	Operating instructions (English)	ARB1373	ARB1384	
	Screw	BPZ30P120FZK	• • • • •	
	Washer	• • • • •	WA42F120K080	No. 23

Note : No. which is in Remarks corresponds to the number of " 1.3 EXPLODED VIEWS ".

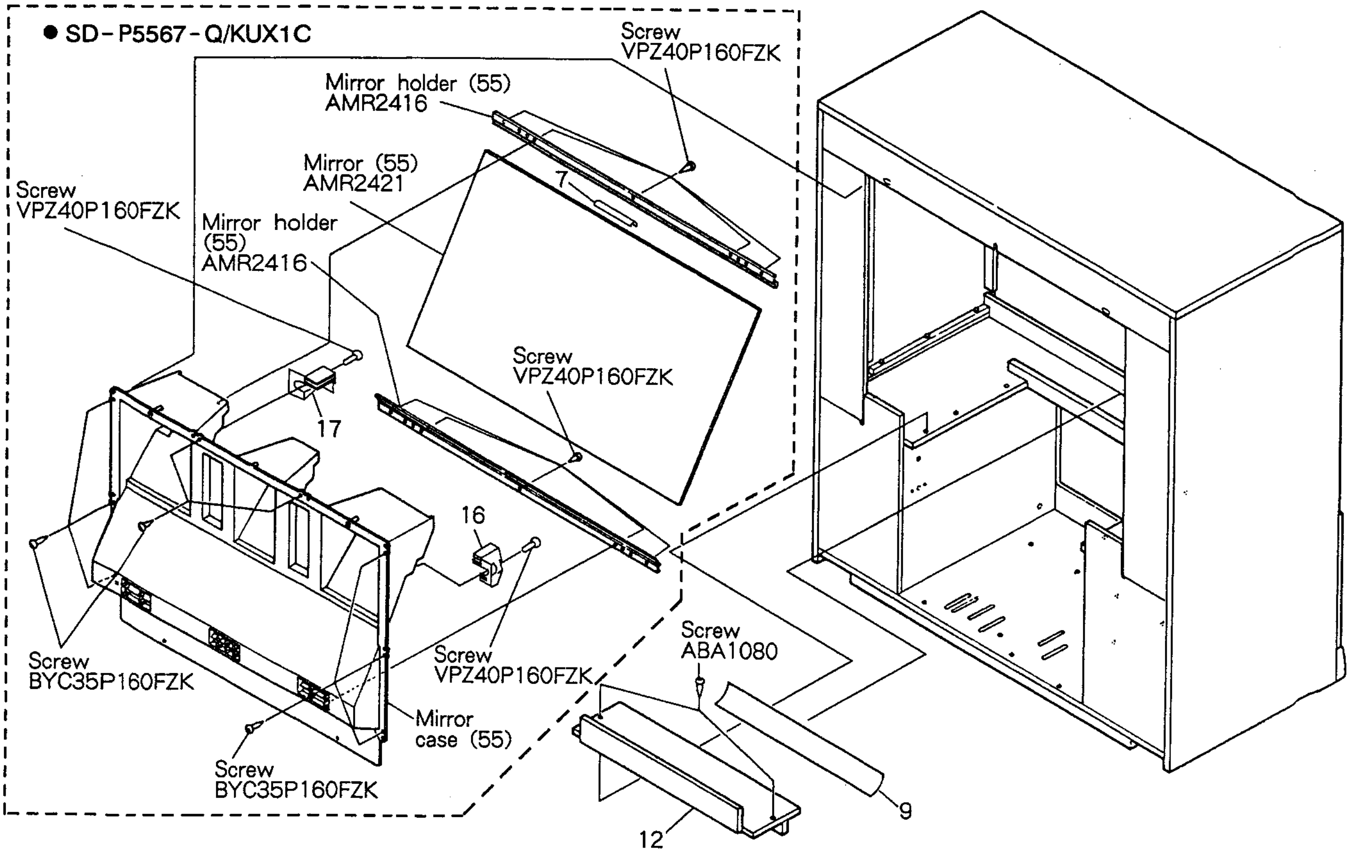
1.2 SD–P5567–Q/KUX1C

SD - P5567 - Q/KUX1C and SD - P5565 - Q/KUX1C have the same construction except for the following:

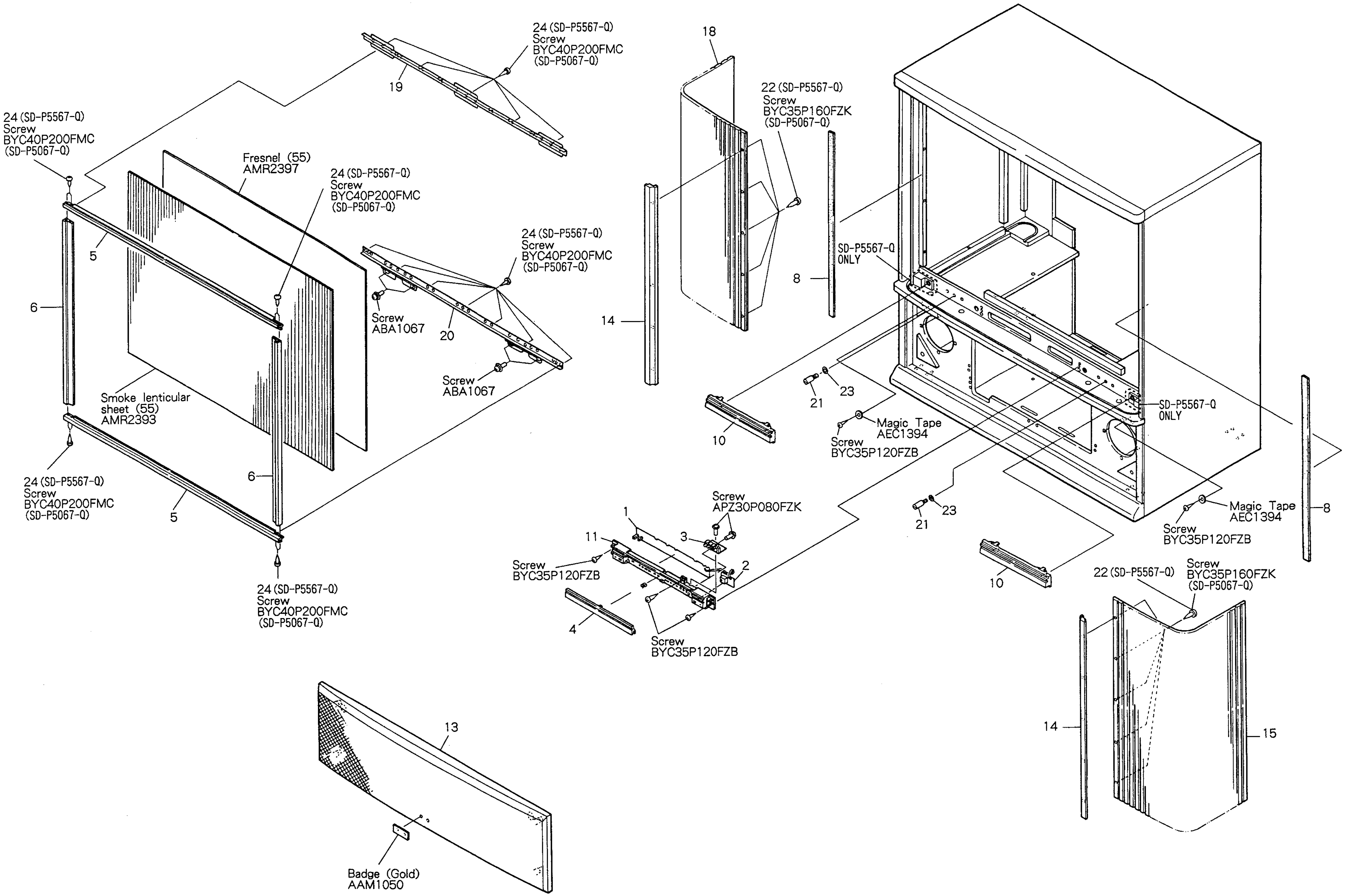
Mark	Symbol & Description	Part No.		Remarks
		SD-P5565-Q/KUX1C	SD-P5567-Q/KUX1C	
	W FRONT CONTROL assembly	AWZ4189	• • • • •	
	FRONT CONTROL assembly	• • • • •	AWZ4232	No. 1
	RECEIVER assembly	AWZ4190	AWZ4233	No. 2
	FRONT TERMINAL assembly	• • • • •	AWZ4234	No. 3
	Indicator panel	AAK2192	• • • • •	
	Control sheet	AAK2342	• • • • •	
	Door	AAN1344	• • • • •	
	Door assembly	• • • • •	AAN1346	No. 4
	Screen frame H (55Q)	AAP1259	• • • • •	
	Screen frame H (55)	• • • • •	AAP1294	No. 5
	Screen frame V (55Q)	AAP1260	• • • • •	
	Screen frame V (55)	• • • • •	AAP1295	No. 6
	Corner frame G (L)	AAP1280	• • • • •	
	Screw	ABZ30P100FMC	• • • • •	
	Corner frame G (R)	AAP1281	• • • • •	
NSP	Spacer	• • • • •	AED1078	No. 7
NSP	Cushion (For screen)	AEC1408	• • • • •	
NSP	Cabinet cushion (55)	• • • • •	AEC1431	No. 8
NSP	Sheet	• • • • •	AED1114	No. 9
	Corrugated paper spacer	• • • • •	AHB1071	For packing
	Under carton (55)	AHD2297	AHD2328	For packing
	Upper carton	AHD2296	• • • • •	For packing
	Upper carton (55)	• • • • •	AHD2327	For packing
NSP	Packing sheet	• • • • •	AHG1166	For packing
	Side panel assembly	• • • • •	AMB1698	No. 10
	Control panel	AMB1793	• • • • •	
	Front panel assembly	• • • • •	AMB2010	No. 11
NSP	Back cover panel	AMM1957	AMM1780	No. 12
	Grille A55 assembly	AMR2367	• • • • •	
	Grille R50	• • • • •	AMR2436	No. 13
NSP	Handle	• • • • •	AMM1779	No. 14
NSP	Tambour door left	• • • • •	AMM1777	No. 15
	Mirror side holder L	• • • • •	AMR2470	No. 16
	Mirror side holder R	• • • • •	AMR2471	No. 17
NSP	Tambour door right	• • • • •	AMM1778	No. 18
NSP	Frame metal plate	ANG1708	• • • • •	
NSP	Fixing holder assembly	• • • • •	ANG1144	No. 19
NSP	Fixing holder assembly	• • • • •	ANG1380	No. 20
NSP	Upper comer stay L	ANG1644	• • • • •	
NSP	Upper comer stay R	ANG1645	• • • • •	
NSP	Under comer stay L	ANG1646	• • • • •	
NSP	Under comer stay R	ANG1647	• • • • •	
NSP	Center frame stay	ANG1648	• • • • •	
NSP	Cabinet upper metal plate	ANG1663	• • • • •	
NSP	Guide pin	• • • • •	ANL1026	No. 21
	Operating instructions (English)	ARB1373	ARB1384	
	Screw	BPZ30P120FZK	• • • • •	
	Screw	• • • • •	BYC35P200FZK	No. 22
	Screw	BYC40P180FZK	• • • • •	
	Washer	• • • • •	WA42F120K080	No. 23
	Screw	• • • • •	BYC40P200FMC	No. 24

1.3 EXPLODED VIEWS

(1) Rear View


● SD-P5567-Q/KUX1C
Screw
VPZ40P160FZK
Mirror holder (55)
AMR2416
Mirror (55)
AMR2421
7
Screw
VPZ40P160FZK
Mirror holder
(55)
AMR2416
17
Screw
VPZ40P160FZK
16
Screw
BYC35P160FZK
Screw
VPZ40P160FZK
Mirror
case (55)
Screw
BYC35P160FZK
Screw
ABA1080
12
9

(2) Front View


24 (SD-P5567-Q)
Screw
BYC40P200FMC
(SD-P5067-Q)
19
18
22 (SD-P5567-Q)
Screw
BYC35P160FZK
(SD-P5067-Q)
24 (SD-P5567-Q)
Screw
BYC40P200FMC
(SD-P5067-Q)
Fresnel (55)
AMR2397
24 (SD-P5567-Q)
Screw
BYC40P200FMC
(SD-P5067-Q)
5
24 (SD-P5567-Q)
Screw
BYC40P200FMC
(SD-P5067-Q)
SD-P5567-Q
ONLY
8
6
Screw
ABA1067
20
14
Screw
ABA1067
Smoke lenticular
sheet (55)
AMR2393
21
23
10
Magic Tape
AEC1394
Screw
BYC35P120FZB
SD-P5567-Q
ONLY
6
24 (SD-P5567-Q)
Screw
BYC40P200FMC
(SD-P5067-Q)
5
Screw
APZ30P080FZK
1
3
11
23
21
Magic Tape
AEC1394
Screw
BYC35P120FZB
8
Screw
BYC35P120FZB
2
10
22 (SD-P5567-Q)
Screw
BYC35P160FZK
(SD-P5067-Q)
24 (SD-P5567-Q)
Screw
BYC40P200FMC
(SD-P5067-Q)
4
Screw
BYC35P120FZB
13
14
15
Badge (Gold)
AAM1050

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Service Manual

PIONEER
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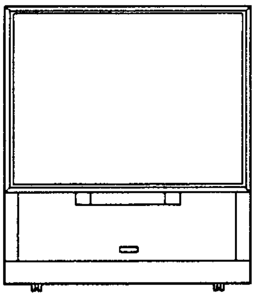

• SD-P5065-K/KUX1C

ORDER NO.
ARP2565

PROJECTION MONITOR RECEIVER

'92 MODEL MECHANICAL INFORMATION

APPLICABLE MODEL

- KUX1C TYPE

SD-P5065-K
SD-P5065-Q
SD-P5064-K
SD-P5064-Q
SD-P5062-Q
SD-P4565-K
SD-P4565-Q
SD-P4564-K
SD-P4564-Q
SD-P4562-Q
SD-P4561-Q
SD-P4063-K
SD-P5565-K
SD-P5564-K
SD-P5564-Q

- This service manual is applicable to above models.
- For Electrical information, refer to Service Manual ARP2564.
  For Adjustment information, refer to Service Manual ARP2566.

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'92 PROJECTION MONITOR RECEIVER MECHANICAL INFORMATION

The '92 models of the Projection Monitor Receiver are listed below.

Type	Family	Model				Power Requirement
		50 " Size	45 " Size	55 " Size	40 " Size	
KUX1C	65	SD-P5065-K SD-P5065-Q	SD-P4565-K SD-P4565-Q	SD-P5565-K	——	AC 120V only
	67	SD-P5067-Q	——	SD-P5567-Q	——	
	64	SD-P5064-K SD-P5064-Q	SD-P4564-K SD-P4564-Q	SD-P5564-K SD-P5564-Q	——	
	63	——	——	——	SD-P4063-K	
	62	SD-P5062-K SD-P5062-Q	SD-P4562-K SD-P4562-Q	——	——	
	61	——	SD-P4561-Q	——	SD-P4061-K	
	PRO	PRO-96	PRO-76	PRO-106	——	
S	——	SD-P5006	——	——	SD-P4006	AC 110V, 120V, 220V, 240V (switchable)
KCX1C	65	SD-P5065-K	——	SD-P5565-K	——	AC 120V only
	63	——	——	——	SD-P4063-K	
	62	——	SD-P4562-K	——	——	

Note : ▨ portion models are applicable to this manual.

MANUAL CONFIGURATION

Two separate service-manual volumes, Electrical Information (ARP2564) and Mechanical Information (ARP2565) are provided for the applicable models, as listed on their front covers.

For other models, these two volumes are joined as a single manual.

For adjustments, Adjustment Information (ARP2566) covers all the 92' models.

Electrical Information (ARP2564)

This volume includes schematic diagrams, PCB and PCB parts lists and a description of the remote control unit.

The schematic diagrams, PCB and PCB parts lists are arranged in section by name of the PCB assembly. The parts numbers for the assemblies (PCB and CRT) used in each model are shown in 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS at the end of the Electrical Information.

For connection of the assemblies, refer to the overall wiring diagram. (In the schematic diagrams, PCB and PCB parts lists, only the assembly names and parts numbers are indicated.)

For the information on the remote control unit, refer to 7. REMOTE CONTROL UNIT after checking in the list.

Mechanical Information (ARP2565)

This volume includes exploded views, packing information and parts lists.

All other items are common among the 40", 45", 50" and 55" models.

- **50", 45" and 55" models**

Based on the exploded view and packing of the SD-P5065-K /KUX1C, the other models are described in comparison tables.

The remote control unit, PCB assembly and CRT assembly are not included in these comparison tables. Refer to 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS in Electrical Information.

- **40" models**

Exploded views and packing information are provided for the SD - P4063 - K / KUX1C.

Adjustment Information (ARP2566)

This volume covers all the '92 models of the Projection Monitor Receiver.

Note

- The descriptions in Electrical Information, Mechanical Information and Adjustment Information are arranged according to the screen size or family. When no destination (KUX1C, KCX1C and S types) is specified, that size or family is intended for all destinations (types).
- For the family models, refer to 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS in Electrical Information.

  Example : SD - P5065 - K
  └ 65 Family

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols -■□- (fast operating fuse) and/or -■⊠- (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible -■□- (fusible de type rapide) et/ou -■⊠- (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1. SAFETY PRECAUTIONS

NOTICE:Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled.
   Keep picture tube away from the body while handling.
2. When service is required, even though the PROJECTION MONITOR RECEIVER an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress.
   Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components.
   Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
   Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacturer has become defective, or inadvertently defeated during servicing.

Therefore, the following checks should be performed for the continued protection of the customer and service technician.

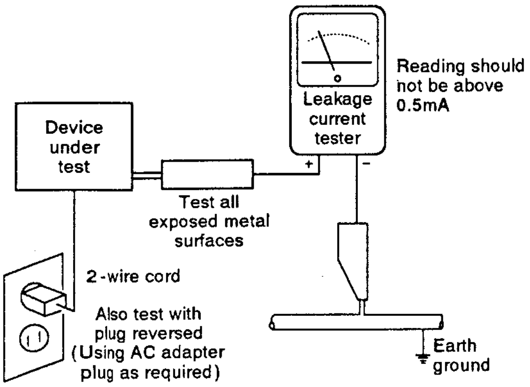
Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester(DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on.

Using a "Leakage Current Tester(Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet(input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground(water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
+
-
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture(video muting is being applied) when no signal is input, high voltage of this set during operation is less than 30.9kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.9kV in the status of the black picture when no signal is input.

To measure H.V. use a high impedance H.V. meter.

Connect (-) to earth and (+) to the FBT anode cable connector.

(Refer to page 18 in Adjustment information.)

X-radiation

TUBE: The primary source of X-radiation in this set is the picture tube.

For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type.

The picture tube(CRT assembly R, G, B) used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (See on page 6). Accordingly, when the current in flowing to the picture tube(CRT assembly R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube(CRT assembly R, G, B) itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assembly with the POWER SUPPLY assembly in the manner in which has been adjusted to perform normal operation.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

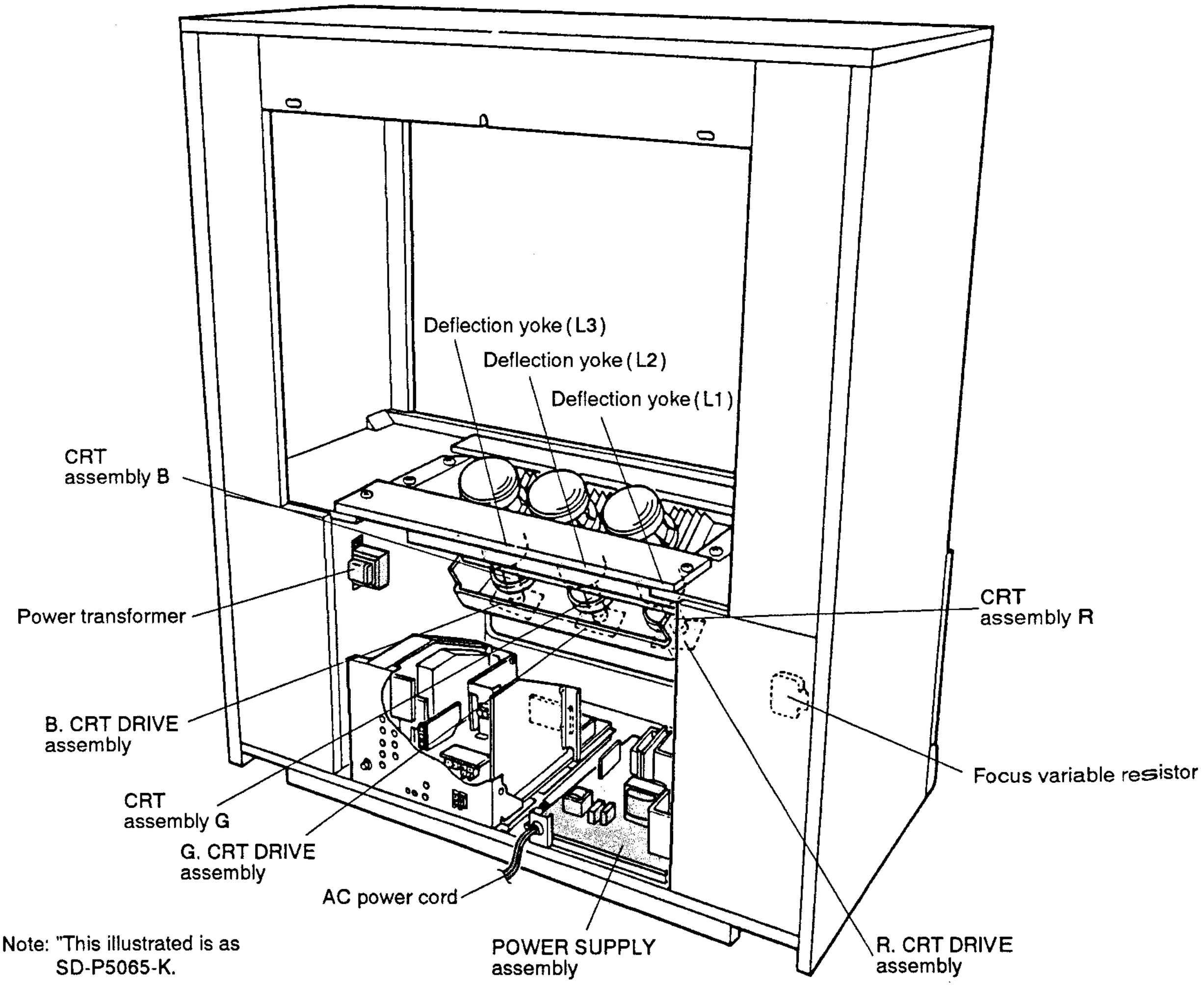
■ Charged section

The circuit in which the commercial AC power is used as it is without passing through the power supply transformer. If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. In this case, be sure to connect the set via an insulated transformer and supply the current.

■ Charged section
(Power supply primary side)

1. The primary side of the POWER SUPPLY assembly
2. AC power cord
3. Power transformer

▨ part is the charged section.
part is the high voltage generating points other than the charged section.


Deflection yoke (L3)
Deflection yoke (L2)
Deflection yoke (L1)
CRT assembly B
Power transformer
B. CRT DRIVE assembly
CRT assembly G
G. CRT DRIVE assembly
AC power cord
POWER SUPPLY assembly
R. CRT DRIVE assembly
CRT assembly R
Focus variable resistor

Note: "This illustrated is as SD-P5065-K.

Fig. 3-1 Charged section and high voltage generating point

■ High voltage generating point

The place where voltage of over 100V is generated.

1. Charged section	
2. POWER SUPPLY assembly (including FBT)	(30.5kV, 135V)
3. R. CRT DRIVE assembly	(10.5kV)
4. G. CRT DRIVE assembly	(10.5kV)
5. B. CRT DRIVE assembly	(10.5kV)
6. CRT assembly R	(30.5kV)
7. CRT assembly G	(30.5kV)
8. CRT assembly B	(30.5kV)
9. Focus variable resistor (VR1)	(10.5kV)
10. Deflection yokes (L1, L2, and L3)	(Approx. 1100V at peak)

■ X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT assembly R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows :When the current flows to the CRT assembly R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT assembly R, G, B. Accordingly, never supply current only to the CRT assembly R, G, B.

  Moreover, the anode voltage of the CRT assembly R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is higher than 30.9kV). Be sure to drive the CRT assembly R, G, B by using a completely functional POWER SUPPLY assembly and V-AMP assembly which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT assembly R, G, B(Do not dismantle CRT assemblies under any circumstances).
2. Each Lens assemblies

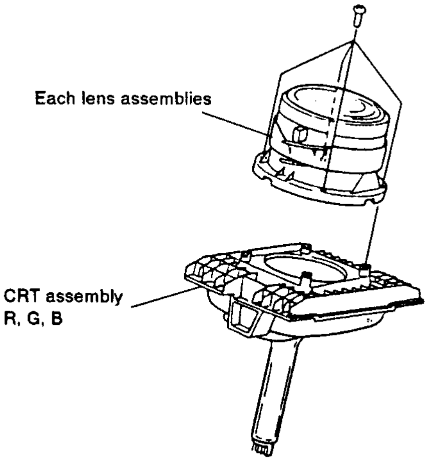


Fig. 3-2 Component parts for X-ray protection

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4. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *Parts marked by ☆ are important parts which relate to X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*

4.1 50", 45" AND 55" MODELS

4.1.1 SD-P5065-K/KUX1C

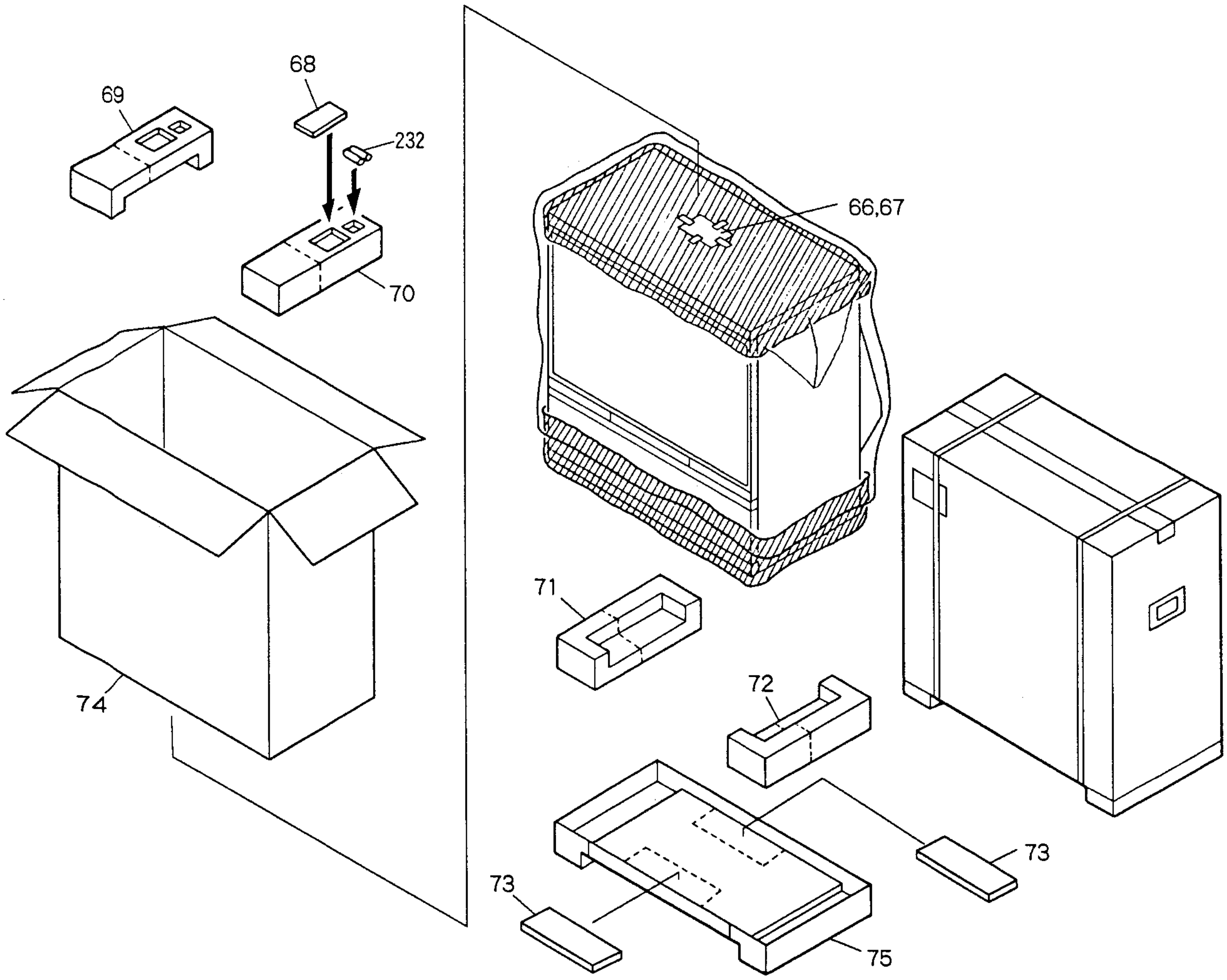
(1) Parts List

Mark	No.	Description	Part No.
⚠	1	FOCUS VR(VR1)	ACX1061
⚠	2	DEFLECTION YOKE(L1-L3)	ATL1086
⚠	3	POWER TRANSFORMER(T1)	ATS1418
⚠	4	FUSE(6.3A, FU103)	AEK-309
⚠	5	FUSE(6.3A, FU105)	AEK-309
⚠	6	FUSE(4A, FU104)	AEK1018
⚠	7	FUSE(4A, FU106)	AEK1018
	8	CONE SPEAKER	APV1021
⚠	9	AC POWER CORD	ADG1058
	10	CASTER	AMR2329
	11	RIVET	AEC-441
	12	RUBBER CUSHION	AEC1125
	13	SCREW	ABA1168
	14	SCREEN CUSHION	AEC1393
	15	• • • • •	
	16	CORD STOPPER	AEP-113
	17	MIRROR	AMR1521
☆	18	LENS ASSEMBLY (R)	AMR2387
☆	19	LENS ASSEMBLY (G)	AMR2388
☆	20	LENS ASSEMBLY (B)	AMR2389
	21	SMOKE LENTICULAR SHEET (50)	AMR2392
	22	FRESNEL (50A)	AMR2413
	23	• • • • •	
	24	SCREW(STEEL)	ABA1067
	25	TAPPING SCREW(STEEL)	ABA1069
	26	SPECIAL SCREW	ABA1080
	27	SCREW	ABA1099
	28	• • • • •	
	29	• • • • •	
	30	SPECIAL SCREW	ABA1121
	31	M5 SCREW	ABA1161
	32	SPECIAL SCREW	ABA1126
	33	SPECIAL SCREW	ABA1149
	34	• • • • •	
	35	• • • • •	
	36	HEXAGONAL DUCT NUT	ABN-087
	37	SCREW	ABZ30P080FZK
	38	SCREW	ABZ30P100FMC
	39	SCREW	ABZ30P120FZK
	40	SCREW	ACZ40P080FMC
	41	SCREW	AMZ40P080FZK
	42	SCREW	APZ30P080FZK
	43	SCREW	BBZ30P080FZK
	44	SCREW	BBZ30P120FZK
	45	SCREW	BMZ40P160FZB

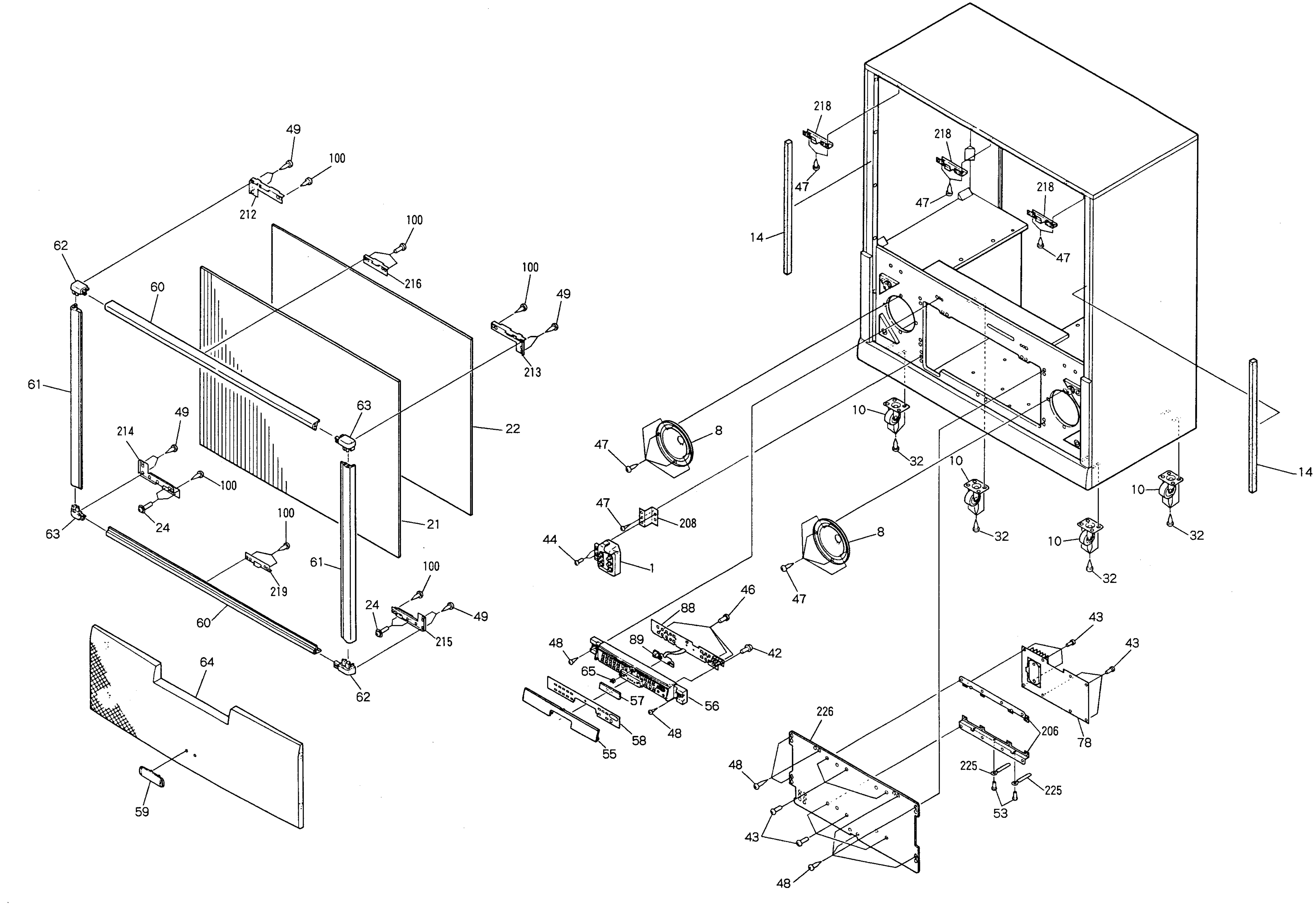
Mark	No.	Description	Part No.
	46	SCREW	BPZ30P120FZK
	47	SCREW	BYC35P120FZB
	48	SCREW	BYC35P160FZK
	49	SCREW	BYC40P160FMC
	50	SCREW	FBT40P120FZK
	51	SCREW	VBT30P080FZK
	52	SCREW	VBZ30P200FMC
	53	SCREW	VCZ30P060FMC
	54	WASHER	WAX0F160N100
	55	DOOR	AAN1325
	56	CONTROL PANEL	AMB1793
	57	INDICATOR PANEL	AAK2192
	58	CONTROL SHEET	AAK2342
	59	BADGE (GOLD)	AAM1050
	60	SCREEN FRAME H (50)	AAP1241
	61	SCREEN FRAME V (50)	AAP1242
	62	CONER FRAME (L)	AAP1275
	63	CONER FRAME (R)	AAP1276
	64	GRILLE A50 ASSEMBLY	AMR2368
	65	CATCHER	AEC1012
	66	OPERATING INSTRUCTIONS (ENGLISH)	ARB1373
	67	ATTENTION CARD	ARM1054
	68	REMOTE CONTROL UNIT	AXD1277
	69	UPPER PAD L	AHA1510
	70	UPPER PAD R	AHA1511
	71	UNDER PAD L	AHA1512
	72	UNDER PAD R	AHA1513
	73	CUSHION (FOR UNDER CARTON)	AHA1519
	74	UPPER CARTON	AHD2301
	75	UNDER CARTON (50)	AHD2302
	76	TUNER-VIDEO ASSEMBLY	AWV1246
☆	77	POWER SUPPLY ASSEMBLY	AWV1281
	78	CONVERGENCE ASSEMBLY	AWZ4178
	79	R.CRT DRIVE ASSEMBLY	AWZ4179
	80	G.CRT DRIVE ASSEMBLY	AWZ4180
	81	B.CRT DRIVE ASSEMBLY	AWZ4181
	82	VIDEO INPUT ASSEMBLY	AWZ4183
	83	AUDIO SELECTOR ASSEMBLY	AWZ4185
	84	Y/C SELECTOR ASSEMBLY	AWZ4186
	85	PINP SELECTOR ASSEMBLY	AWZ4188
	86	AV I/O-PINP-Y/C SEP ASSEMBLY	AWZ4182
	87	REC MUTE ASSEMBLY	AWZ4470
	88	W FRONT CONTROL ASSEMBLY	AWZ4189
	89	RECEIVER ASSEMBLY	AWZ4190

Mark	No.	Description	Part No.
☆	90	V-AMP ASSEMBLY	AWZ4191
	91	A CONNECTOR ASSEMBLY	AWZ4211
	92	B CONNECTOR ASSEMBLY	AWZ4212
	93	MICROCOMPUTER ASSEMBLY	AWZ4231
	94	POWER AMP ASSEMBLY	AWZ4193
	95	EXT. SP ASSEMBLY	AWZ4194
	96	DOL. PRO. MOD.	AXQ1009
⚠ ☆	97	CRT ASSEMBLY R	AWY1159
⚠ ☆	98	CRT ASSEMBLY G	AWY1167
⚠ ☆	99	CRT ASSEMBLY B	AWY1160
	100	SCREW	BYC40P180FZK
NSP	200	CHASSIS R	ANA1165
NSP	201	CHASSIS L	ANA1166
NSP	202	CRT STAND HOLDER L	ANA1173
NSP	203	CRT STAND HOLDER R	ANA1174
NSP	204	CRT STAND (50)	ANA1186
NSP	205	REAR PANEL	ANC1874
NSP	206	CONVERGENCE STAY	AND1035
NSP	207	MIRROR HOLDER ASSEMBLY	ANG1271
NSP	208	VR HOLDER	ANG1404
NSP	209	PCB STAND	ANG1640
NSP	210	PCB FRAME	ANG1641
NSP	211	DOLBY AMP STAND	ANG1642
NSP	212	UPPER CORNER STAY L	ANG1644
NSP	213	UPPER CORNER STAY R	ANG1645
NSP	214	UNDER CORNER STAY L	ANG1646
NSP	215	UNDER CORNER STAY R	ANG1647
NSP	216	CENTER FRAME STAY	ANG1648
NSP	217	CORD PLATE	ANG1650
NSP	218	UPPER METAL FRAME	ANG1663
NSP	219	FRAME HOLDER	ANG1708
NSP	220	CUSHION SHEET A	AEC1110
NSP	221	CUSHION SHEET B	AEC1111
NSP	222	CABINET WIRE HOLDER	AEC1263
NSP	223	SPACER	AED1078
NSP	224	MIRROR CUSHION	AEC1296
NSP	225	BINDER	AEP-215
NSP	226	BLIND PLATE	AMM1829
NSP	227	TRAY	AMR2283
NSP	228	MIRROR CASE (50)	AME1019
	229	• • • • •	
NSP	230	REAR COVER	AMM1717
NSP	231	BACK COVER PANEL	AMM1742
NSP	232	ALKALINE(LR6, AA)	AEX1007

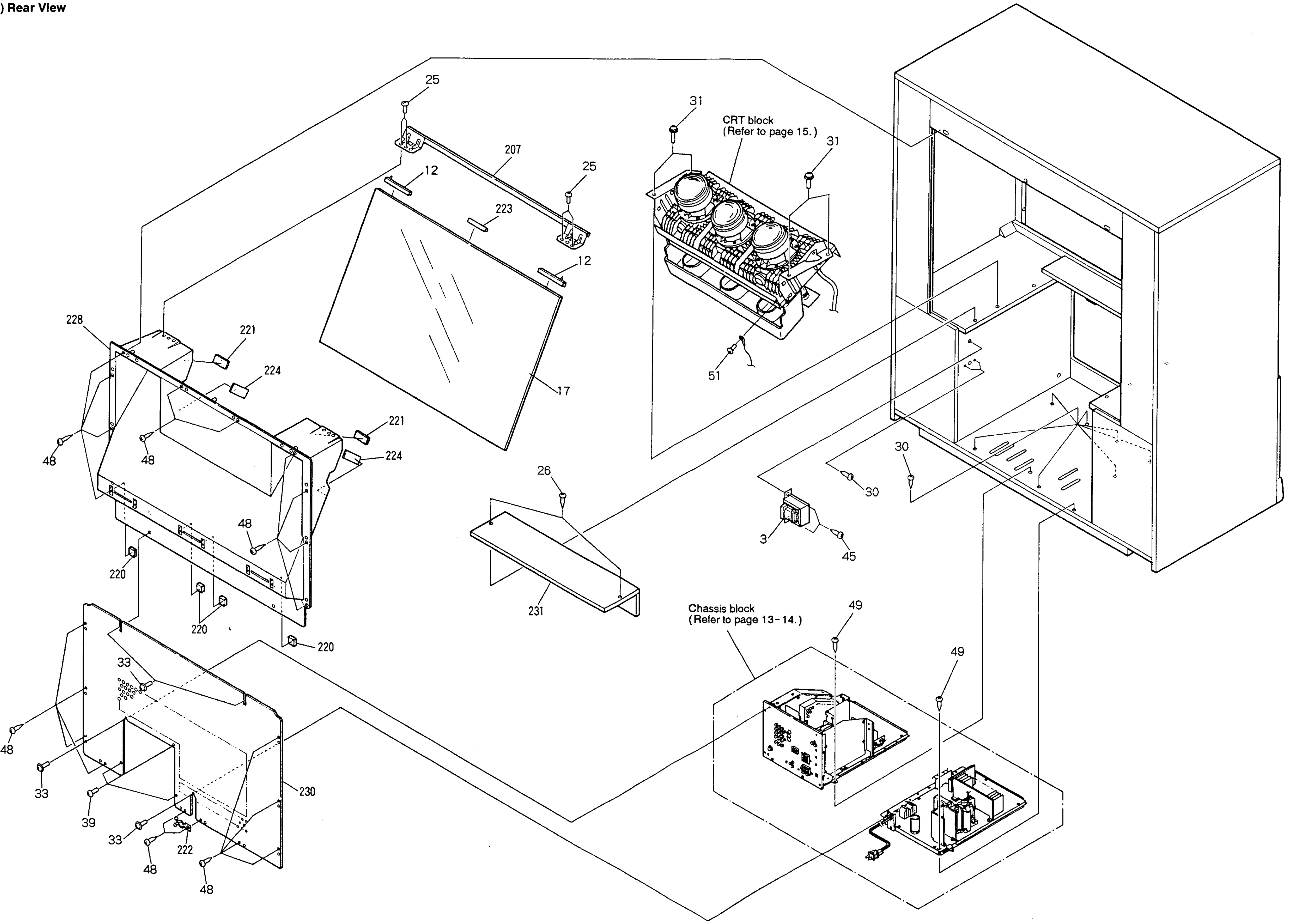
(2) Packing



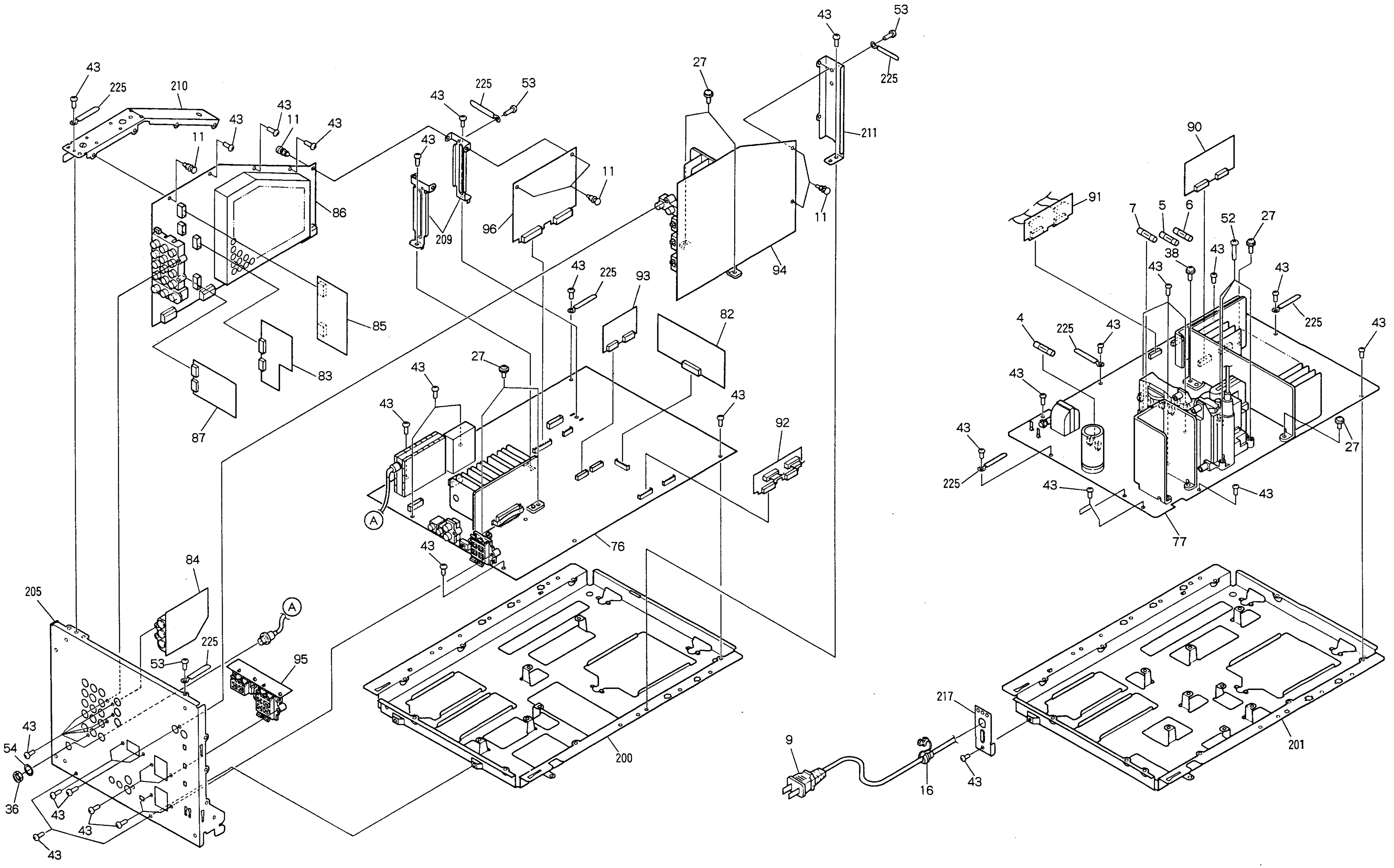
(3) Front View



(4) Rear View


CRT block
(Refer to page 15.)
Chassis block
(Refer to page 13-14.)

(5) Chassis Block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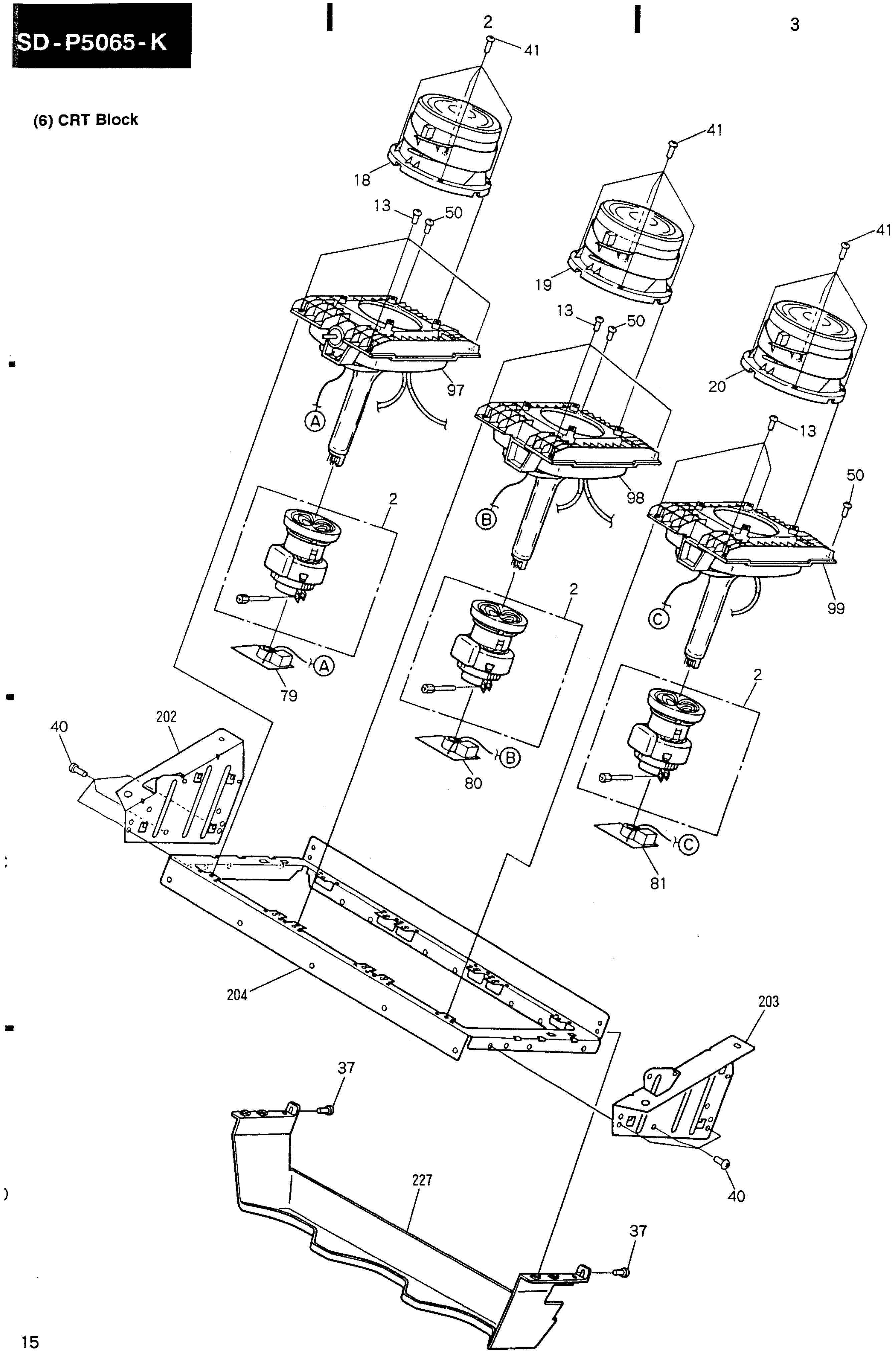
(6) CRT Block



NOTES:

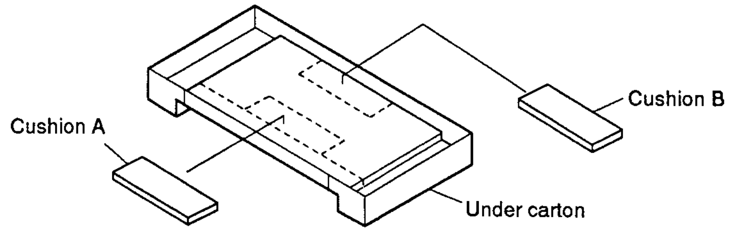
- *For the PCB assemblies, remote control unit and CRT assemblies, refer to the section " 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS" in Electrical Information.*
- *For the lens assembly, refer to Table 4- 1 through 4- 3.*

4.1. 2 SD–P5065–Q, SD–P5064–K, SD–P5064–Q and SD–P5062–Q/KUX1C

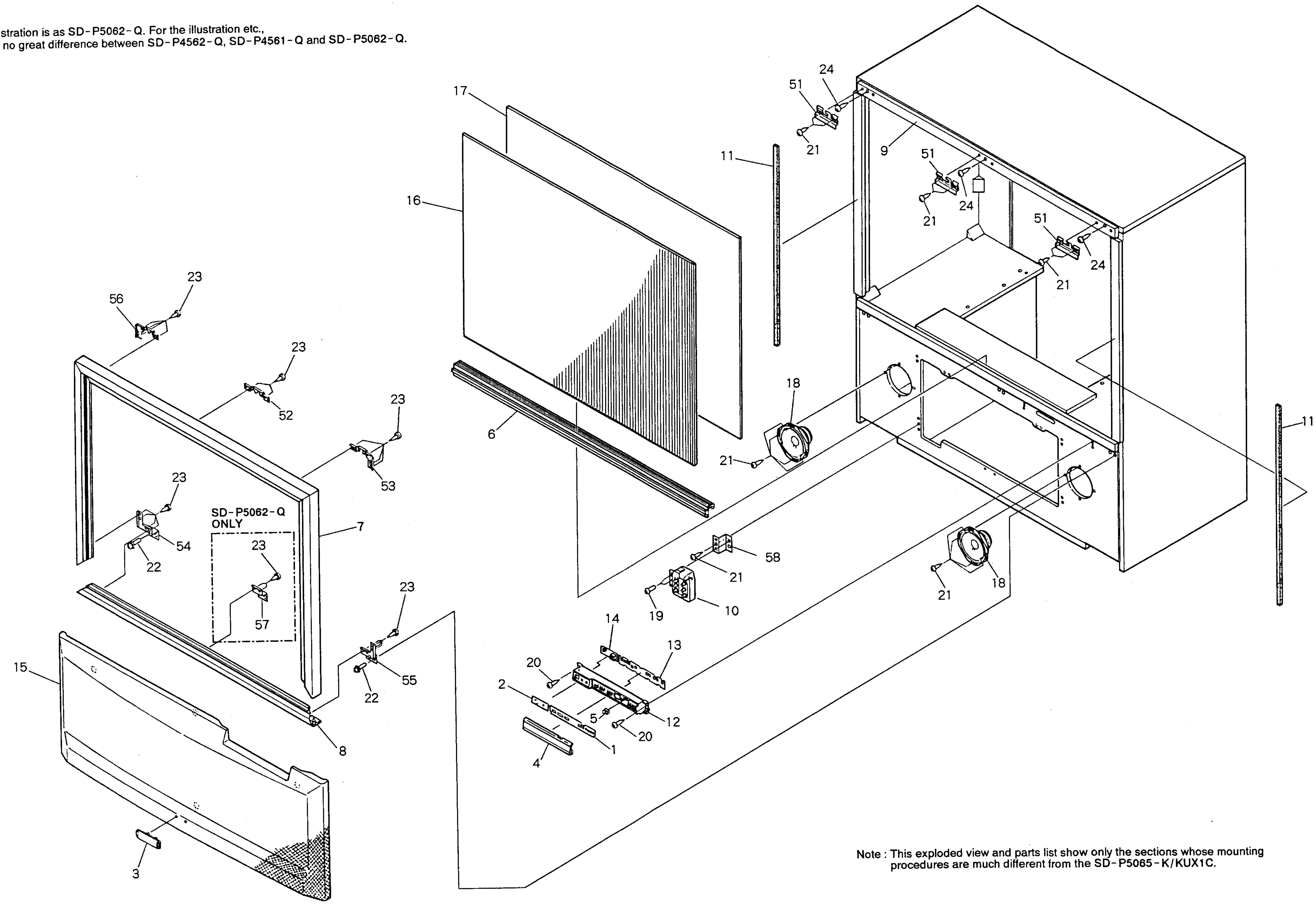
SD–P5065–Q, SD–P5064–K, SD–P5064–Q, SD–P5062–Q/KUX1C and SD–P5065–K/KUX1C have the same construction except for the following:

Mark	Symbol and Description	Part No.					Remarks
		SD–P5065–K	SD–P5065–Q	SD–P5064–K	SD–P5064–Q	SD–P5062–Q	
	Badge (Gold)	AAM1050	AAM1050	AAM1050	AAM1050	• • • • •	
	Badge (Black)	• • • • •	• • • • •	• • • • •	• • • • •	AAM1049	
NSP	Center frame stay	ANG1648	• • • • •	ANG1648	• • • • •	• • • • •	
	Cone speaker	APV1021	APV1021	APV1021	APV1021	APV1023	
	Control panel	AMB1793	AMB1793	AMB1793	AMB1793	AMB1964	
	Control sheet	AAK2342	AAK2342	AAK2299	AAK2299	AAK2314	
	Corner frame (L)	AAP1275	• • • • •	AAP1275	• • • • •	• • • • •	
	Corner frame (R)	AAP1276	• • • • •	AAP1276	• • • • •	• • • • •	
NSP	Cushion (for screen)	• • • • •	AEC1300	• • • • •	AEC1300	• • • • •	
	Cushion (for under carton)	AHA1519	AHA1519	AHA1519	AHA1519	• • • • •	For packing
	Cushion A (for under carton)	• • • • •	• • • • •	• • • • •	• • • • •	AHA1539	For packing *1
	Cushion B (for under carton)	• • • • •	• • • • •	• • • • •	• • • • •	AHA1540	For packing *1
NSP	Dolby amp stand	ANG1642	ANG1642	ANG1642	ANG1642	• • • • •	
	Door	AAN1325	AAN1325	AAN1350	AAN1350	AAN1331	
⚠	Focus VR (VR1)	ACX1061	ACX1061	ACX1061	ACX1061	ACX1073	
NSP	Frame holder	ANG1708	• • • • •	ANG1708	• • • • •	• • • • •	
	Fresnel (50A)	AMR2413	AMR2413	AMR2413	AMR2413	• • • • •	
	Fresnel (50B)	• • • • •	• • • • •	• • • • •	• • • • •	AMR2415	
⚠	Fuse (4A,FU104)	AEK1018	AEK1018	AEK1018	AEK1018	• • • • •	
	Grille A50 assembly	AMR2368	AMR2368	AMR2368	AMR2368	• • • • •	
	Grille 50B assembly	• • • • •	• • • • •	• • • • •	• • • • •	AMR2370	
	Indicator panel	AAK2192	AAK2192	AAK2192	AAK2192	AAK2315	
	Smoke lenticular sheet (50)	AMR2392	AMR2392	AMR2392	AMR2392	• • • • •	
	Lenticular sheet (50B)	• • • • •	• • • • •	• • • • •	• • • • •	AMR2411	
	Mirror(50)	AMR1521	AMR1521	• • • • •	• • • • •	• • • • •	
	Mirror	• • • • •	• • • • •	AMR2425	AMR2425	AMR2425	
	Operating instructions (English)	ARB1373	ARB1373	ARB1375	ARB1375	ARB1376	
⚠	Power transformer (T1)	ATS1418	ATS1418	ATS1418	ATS1418	• • • • •	
NSP	Rear panel	ANC1874	ANC1874	ANC1874	ANC1874	ANC1876	
NSP	Back cover panel	AMM1742	AMM1742	AMM1742	AMM1742	AMM1759	
	Screen cushion	AEC1393	• • • • •	AEC1393	• • • • •	• • • • •	
	Screen cushion 50B	• • • • •	• • • • •	• • • • •	• • • • •	AEC1413	
	Screen frame H (50)	AAP1241	• • • • •	AAP1241	• • • • •	• • • • •	
	Screen frame V (50)	AAP1242	• • • • •	AAP1242	• • • • •	• • • • •	
	Screen frame assembly (50AQ)	• • • • •	AAP1263	• • • • •	AAP1263	• • • • •	
	Screen frame HV (50B)	• • • • •	• • • • •	• • • • •	• • • • •	AAP1331	
	Screen frame UH (50B)	• • • • •	• • • • •	• • • • •	• • • • •	AAP1335	

*1 : Cushion A and B



- This illustration is as SD-P5062-Q. For the illustration etc., there is no great difference between SD-P4562-Q, SD-P4561-Q and SD-P5062-Q.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SD-P5062-Q ONLY
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Note : This exploded view and parts list show only the sections whose mounting procedures are much different from the SD-P5065-K/KUX1C.

Mark	Symbol and Description	Part No.					Remarks
		SD–P5065–K	SD–P5065–Q	SD–P5064–K	SD–P5064–Q	SD–P5062–Q	
NSP	Screen holder 50B	•••••	•••••	•••••	•••••	AAP1262	
NSP	Screen spacer 50B	•••••	•••••	•••••	•••••	AAP1288	
	Screw	•••••	•••••	•••••	•••••	ABA1151	
	Under carton (50)	AHD2302	AHD2302	AHD2302	AHD2302	•••••	For packing
	Under carton (50B)	•••••	•••••	•••••	•••••	AHD2305	For packing
NSP	Under corner stay L	ANG1646	•••••	ANG1646	•••••	ANG1679	
NSP	Under corner stay R	ANG1647	•••••	ANG1647	•••••	ANG1680	
NSP	Under frame stay	•••••	•••••	•••••	•••••	ANG1682	
	Under pad L	AHA1512	AHA1512	AHA1512	AHA1512	•••••	For packing
	Under pad L (B)	•••••	•••••	•••••	•••••	AHA1514	For packing
	Under pad R	AHA1513	AHA1513	AHA1513	AHA1513	•••••	For packing
	Under pad R (B)	•••••	•••••	•••••	•••••	AHA1515	For packing
	Upper carton	AHD2301	AHD2321	AHD2320	AHD2319	•••••	For packing
	Upper carton (50B)	•••••	•••••	•••••	•••••	AHD2306	For packing
NSP	Upper corner stay L	ANG1644	•••••	ANG1644	•••••	ANG1681	
NSP	Upper corner stay R	ANG1645	•••••	ANG1645	•••••	ANG1678	
NSP	Upper frame stay	•••••	•••••	•••••	•••••	ANG1677	
NSP	Upper metal frame	ANG1663	ANG1663	ANG1663	ANG1663	ANG1676	
NSP	Frame upper holder A	•••••	ANG1684	•••••	ANG1684	•••••	
NSP	Frame upper holder B	•••••	ANG1685	•••••	ANG1685	•••••	
NSP	Frame under holder	•••••	ANG1686	•••••	ANG1686	•••••	
NSP	Frame holder	•••••	ANG1687	•••••	ANG1687	•••••	

Table 4-1 Lens assembly list in use of SD-P5065-Q, SD-P5064-K, SD-P5064-Q, SD-P5062-Q and SD-P5065-K.

Mark	Color	Description and Part No.					Remarks
		SD–P5065–K	SD–P5065–Q	SD–P5064–K	SD–P5064–Q	SD–P5062–Q	
☆	For Red	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	
☆	For Green	Lens assembly (G) AMR2388	Lens assembly (G) AMR2388	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	
☆	For Blue	Lens assembly (B) AMR2389	Lens assembly (B) AMR2389	Lens assembly (BB) AMR2430	Lens assembly (BB) AMR2430	Lens assembly (BB) AMR2430	

4.1.3 SD-P4565-K, SD-P4565-Q, SD-P4564-K, SD-P4564-Q, SD-P4562-Q and SD-P4561-Q/KUX1C

SD-P4565-K, SD-P4565-Q, SD-P4564-K, SD-P4564-Q, SD-P4562-Q, SD-P4561-Q/KUX1C and SD-P5065-K/KUX1C have the same construction except for the following:

Mark	Symbol and Description	Part No.							Remarks
		SD-P5065-K	SD-P4565-K	SD-P4565-Q	SD-P4564-K	SD-P4564-Q	SD-P4562-Q	SD-P4561-Q	
	Badge (Gold)	AAM1050	AAM1050	AAM1050	AAM1050	AAM1050	•••••	•••••	
	Badge (Black)	•••••	•••••	•••••	•••••	•••••	AAM1049	AAM1049	
NSP	CRT stand (50)	ANA1186	•••••	•••••	•••••	•••••	•••••	•••••	
NSP	CRT stand (45)	•••••	ANA1187	ANA1187	ANA1187	ANA1187	ANA1187	ANA1187	
NSP	Center frame stay	ANG1648	ANG1648	ANG1648	ANG1648	ANG1648	•••••	•••••	
	Cone speaker	APV1021	APV1021	APV1021	APV1021	APV1021	APV1023	APV1023	
	Control panel	AMB1793	AMB1793	AMB1793	AMB1793	AMB1793	AMB1964	AMB1964	
	Control sheet	AAK2342	AAK2342	AAK2342	AAK2299	AAK2299	AAK2314	AAK2314	
	Corner frame (L)	AAP1275	AAP1275	•••••	AAP1275	•••••	•••••	•••••	
	Corner frame (R)	AAP1276	AAP1276	•••••	AAP1276	•••••	•••••	•••••	
	Corner frame G (L)	•••••	•••••	AAP1280	•••••	AAP1280	•••••	•••••	
	Corner frame G (R)	•••••	•••••	AAP1281	•••••	AAP1281	•••••	•••••	
	Cushion (for under carton)	AHA1519	AHA1519	AHA1519	AHA1519	AHA1519	•••••	•••••	For packing
	Cushion A (for under carton)	•••••	•••••	•••••	•••••	•••••	AHA1539	AHA1539	For packing
	Cushion B (for under carton)	•••••	•••••	•••••	•••••	•••••	AHA1540	AHA1540	For packing
NSP	Dolby amp stand	ANG1642	ANG1642	ANG1642	ANG1642	ANG1642	•••••	•••••	
	Door	AAN1325	AAN1333	AAN1333	AAN1352	AAN1352	AAN1320	AAN1332	
⚠	Focus VR (VR1)	ACX1061	ACX1061	ACX1061	ACX1061	ACX1061	ACX1073	ACX1073	
NSP	Frame holder	ANG1708	ANG1708	ANG1708	ANG1708	ANG1708	•••••	•••••	
	Fresnel (50A)	AMR2413	•••••	•••••	•••••	•••••	•••••	•••••	
	Fresnel (45A)	•••••	AMR2412	AMR2412	AMR2412	AMR2412	•••••	•••••	
	Fresnel (45B)	•••••	•••••	•••••	•••••	•••••	AMR2395	AMR2395	
⚠	Fuse (4A,FU104)	AEK1018	AEK1018	AEK1018	AEK1018	AEK1018	•••••	•••••	
	Grille A50 assembly	AMR2368	AMR2368	AMR2368	AMR2368	AMR2368	•••••	•••••	
	Grille 45B assembly	•••••	•••••	•••••	•••••	•••••	AMR2366	AMR2366	
	Indicator panel	AAK2192	AAK2192	AAK2192	AAK2192	AAK2192	AAK2315	AAK2315	
	Mirror(50)	AMR1521	AMR1521	AMR1521	•••••	•••••	•••••	•••••	
	Mirror	•••••	•••••	•••••	AMR2425	AMR2425	AMR2425	AMR2425	
	Operating instructions (English)	ARB1373	ARB1373	ARB1373	ARB1375	ARB1375	ARB1376	ARB1376	
⚠	Power transformer (T1)	ATS1418	ATS1418	ATS1418	ATS1418	ATS1418	•••••	•••••	
NSP	Rear panel	ANC1874	ANC1874	ANC1874	ANC1874	ANC1874	ANC1876	ANC1876	
NSP	Back cover panel	AMM1742	AMM1862	AMM1862	AMM1862	AMR1862	AMM1842	AMM1842	
	Screen cushion	AEC1393	•••••	•••••	•••••	•••••	•••••	•••••	
	Screen cushion 45	•••••	AEC1451	AEC1451	AEC1451	AEC1451	•••••	•••••	
	Screen cushion 45B	•••••	•••••	•••••	•••••	•••••	AEC1406	AEC1406	
	Screen frame H (50)	AAP1241	•••••	•••••	•••••	•••••	•••••	•••••	
	Screen frame H (45)	•••••	AAP1246	•••••	AAP1246	•••••	•••••	•••••	
	Screen frame H (45Q)	•••••	•••••	AAP1257	•••••	AAP1257	•••••	•••••	
	Screen frame HV (45B)	•••••	•••••	•••••	•••••	•••••	AAP1330	AAP1330	
	Screen frame UH (45B)	•••••	•••••	•••••	•••••	•••••	AAP1334	AAP1334	
	Screen frame V (50)	AAP1242	•••••	•••••	•••••	•••••	•••••	•••••	
	Screen frame V (45)	•••••	AAP1247	•••••	AAP1247	•••••	•••••	•••••	
	Screen frame V (45Q)	•••••	•••••	AAP1258	•••••	AAP1258	•••••	•••••	
NSP	Screen holder 45B	•••••	•••••	•••••	•••••	•••••	AAP1261	AAP1261	
	Screen spacer (45A)	•••••	AEC1424	AEC1424	AEC1424	AEC1424	•••••	•••••	
NSP	Screen spacer 45B	•••••	•••••	•••••	•••••	•••••	AAP1287	AAP1287	
	Screw	•••••	•••••	•••••	•••••	•••••	ABA1151	ABA1151	

Mark	Symbol and Description	Part No.							Remarks
		SD-P5065-K	SD-P4565-K	SD-P4565-Q	SD-P4564-K	SD-P4564-Q	SD-P4562-Q	SD-P4561-Q	
	Smoke lenticular sheet (50)	AMR2392	•••••	•••••	•••••	•••••	•••••	•••••	
	Smoke lenticular sheet (45)	•••••	AMR2391	AMR2391	AMR2391	AMR2391	•••••	•••••	
	Lenticular sheet (45B)	•••••	•••••	•••••	•••••	•••••	AMR2410	AMR2410	
	Special screw	ABA1107	•••••	•••••	•••••	•••••	•••••	•••••	
	Under carton (50)	AHD2302	•••••	•••••	•••••	•••••	•••••	•••••	For packing
	Under carton (45)	•••••	AHD2268	AHD2268	AHD2268	AHD2268	•••••	•••••	For packing
	Under carton (45B)	•••••	•••••	•••••	•••••	•••••	AHD2303	AHD2303	For packing
NSP	Under corner stay L	ANG1646	ANG1646	ANG1646	ANG1646	ANG1646	ANG1679	ANG1679	
NSP	Under corner stay R	ANG1647	ANG1647	ANG1647	ANG1647	ANG1647	ANG1680	ANG1680	
	Under pad L	AHA1512	AHA1512	AHA1512	AHA1512	AHA1512	•••••	•••••	For packing
	Under pad L (B)	•••••	•••••	•••••	•••••	•••••	AHA1514	AHA1514	For packing
	Under pad R	AHA1513	AHA1513	AHA1513	AHA1513	AHA1513	•••••	•••••	For packing
	Under pad R (B)	•••••	•••••	•••••	•••••	•••••	AHA1515	AHA1515	For packing
	Upper carton	AHD2301	AHD2267	AHD2316	AHD2317	AHD2318	•••••	AHD2307	For packing
	Upper carton (45B)	•••••	•••••	•••••	•••••	•••••	AHD2304	•••••	For packing
NSP	Upper corner stay L	ANG1644	ANG1644	ANG1644	ANG1644	ANG1644	ANG1680	ANG1680	
NSP	Upper corner stay R	ANG1645	ANG1645	ANG1645	ANG1645	ANG1645	ANG1678	ANG1678	
NSP	Upper frame stay	•••••	•••••	•••••	•••••	•••••	ANG1677	ANG1677	
NSP	Upper metal frame	ANG1663	ANG1663	ANG1663	ANG1663	ANG1663	ANG1676	ANG1676	

Table 4-2 Lens assembly list in use of SD-P4565-K, SD-P4565-Q, SD-P4564-K, SD-P4564-Q, SD-P4562-Q, SD-P4561-Q and SD-P5065-K.

Mark	Color	Description and Part No.							Remarks
		SD-P5065-K	SD-P4565-K	SD-P4565-Q	SD-P4564-K	SD-P4564-Q	SD-P4562-Q	SD-P4561-Q	
☆	For Red	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	
☆	For Green	Lens assembly (G) AMR2388	Lens assembly (G) AMR2388	Lens assembly (G) AMR2388	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	
☆	For Blue	Lens assembly (B) AMR2389	Lens assembly (B) AMR2389	Lens assembly (B) AMR2389	Lens assembly (BB) AMR2430	Lens assembly (BB) AMR2430	Lens assembly (BB) AMR2430	Lens assembly (BB) AMR2430	

4.1.4 SD-P5565-K, SD-P5564-K and SD-P5564-Q/KUX1C

SD-P5565-K, SD-P5564-K, SD-P5564-Q/KUX1C and SD-P5065-K/KUX1C have the same construction except for the following:

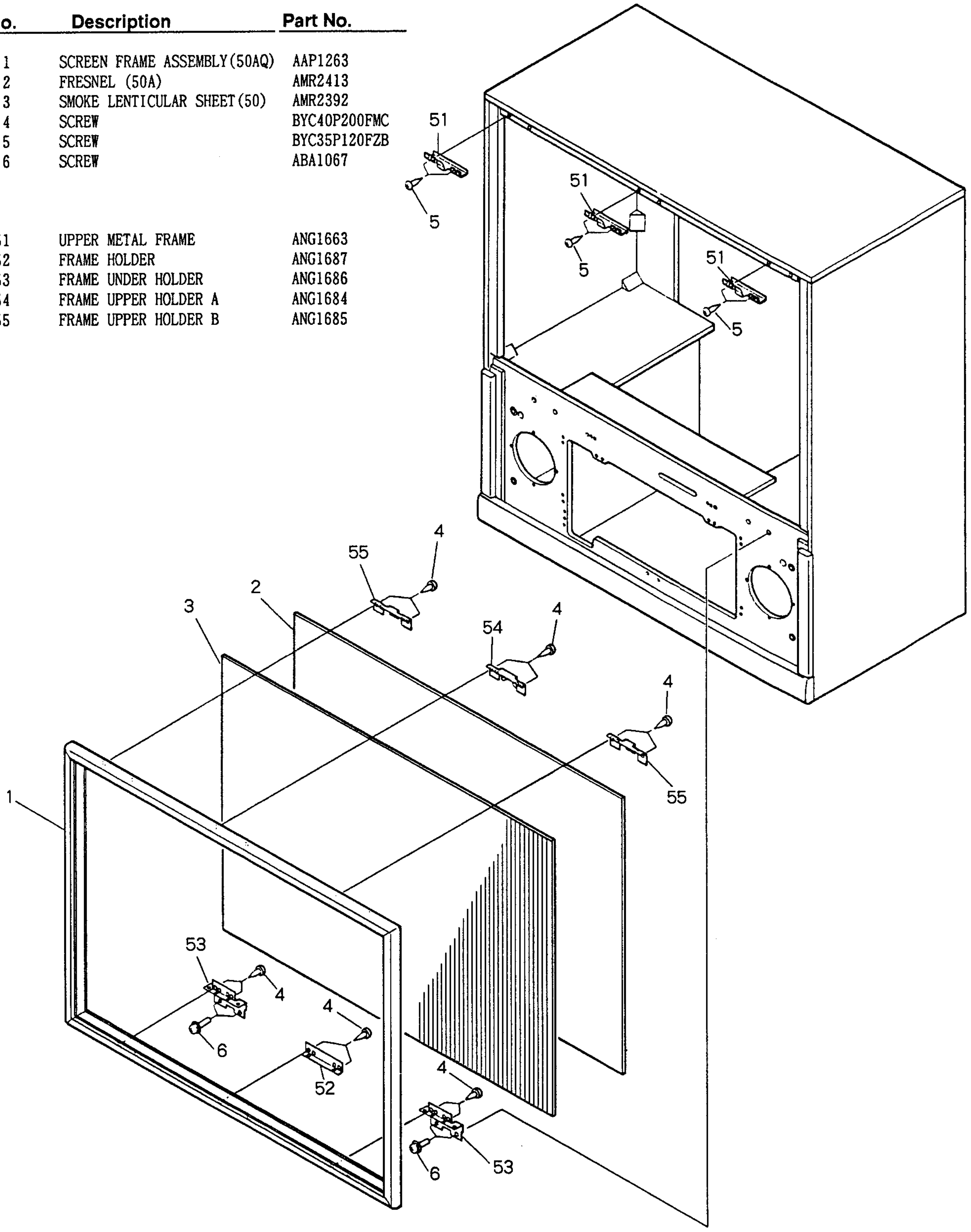
Mark	Symbol and Description	Part No.				Remarks
		SD-P5065-K	SD-P5565-K	SD-P5564-K	SD-P5564-Q	
NSP	Back cover panel	AMM1742	AMM1957	AMM1957	AMM1957	
NSP	CRT stand (50)	ANA1186	•••••	•••••	•••••	
NSP	CRT stand (55)	•••••	ANA1189	ANA1189	ANA1189	
	Control sheet	AAK2342	AAK2342	AAK2299	AAK2299	
	Corner frame (L)	AAP1275	AAP1275	AAP1275	•••••	
	Corner frame (R)	AAP1276	AAP1276	AAP1276	•••••	
	Corner frame G(L)	•••••	•••••	•••••	AAP1280	
	Corner frame G(R)	•••••	•••••	•••••	AAP1281	
NSP	Cushion sheet A	AEC1110	•••••	•••••	•••••	
NSP	Cushion sheet B	AEC1111	•••••	•••••	•••••	
	Door	AAN1325	•••••	•••••	•••••	
	Door (SD-P5564)	•••••	•••••	AAN1345	AAN1345	
	Door (SD-P5565)	•••••	AAN1344	•••••	•••••	
	Fresnel (50A)	AMR2413	•••••	•••••	•••••	
	Fresnel (55)	•••••	AMR2397	AMR2397	AMR2397	
	Grille A50 assembly	AMR2368	•••••	•••••	•••••	
	Grille A55 assembly	•••••	AMR2367	AMR2367	AMR2367	
	Mirror (50)	AMR1521	•••••	•••••	•••••	
	Mirror (55)	•••••	AMR2421	AMR2421	AMR2421	
NSP	Mirror case (50)	AME1019	•••••	•••••	•••••	
NSP	Mirror case (55)	•••••	AME1080	AME1080	AME1080	
NSP	Mirror cushion	AEC1296	AEC1242	AEC1242	AEC1242	
	Mirror holder (55)	•••••	AMR2416	AMR2416	AMR2416	
NSP	Mirror holder assembly	ANG1271	•••••	•••••	•••••	
	Mirror side holder L	•••••	AMR2470	AMR2470	AMR2470	
	Mirror side holder R	•••••	AMR2471	AMR2471	AMR2471	
	Operating instructions (English)	ARB1373	ARB1373	ARB1375	ARB1375	
	Screen cushion	AEC1393	•••••	•••••	•••••	
	Screen cushion (55)	•••••	AEC1408	AEC1408	AEC1408	
	Screen frame H (50)	AAP1241	•••••	•••••	•••••	
	Screen frame H (55)	•••••	AAP1248	AAP1248	•••••	
	Screen frame H (55Q)	•••••	•••••	•••••	AAP1259	
	Screen frame V (50)	AAP1242	•••••	•••••	•••••	
	Screen frame V (55)	•••••	AAP1249	AAP1249	•••••	
	Screen frame V (55Q)	•••••	•••••	•••••	AAP1260	
	Screw	ABA1069	•••••	•••••	•••••	
	Smoke lenticular sheet (50)	AMR2392	•••••	•••••	•••••	
	Smoke lenticular sheet (55)	•••••	AMR2393	AMR2393	AMR2393	
NSP	Spacer	AED1078	•••••	•••••	•••••	
	Under carton (50)	AHD2302	•••••	•••••	•••••	For packing
	Under carton (55)	•••••	AHD2297	AHD2297	AHD2297	For packing
	Upeer carton	AHD2301	•••••	•••••	•••••	For packing
	Upper carton (SD-P5564-K)	•••••	•••••	AHD2298	•••••	For packing
	Upper carton (SD-P5564-Q)	•••••	•••••	•••••	AHD2300	For packing
	Upper carton (SD-P5565-K)	•••••	AHD2299	•••••	•••••	For packing

Table 4-3 Lens assembly list in use of SD-P5565-K, SD-P5564-K, SD-P5564-Q and SD-P5065-K.

Mark	Color	Description and Part No.				Remarks
		SD-P5065-K	SD-P5565-K	SD-P5564-K	SD-P5564-Q	
☆	For Red	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	Lens assembly (R) AMR2387	
☆	For Green	Lens assembly (G) AMR2388	Lens assembly (G) AMR2388	Lens assembly (G) AMR2388	Lens assembly (G) AMR2388	
☆	For Blue	Lens assembly (B) AMR2389	Lens assembly (B) AMR2389	Lens assembly (B) AMR2389	Lens assembly (B) AMR2389	

4.1.5 SD-P5065-Q and SD-P5064-Q/KUX1C

Mark	No.	Description	Part No.
	1	SCREEN FRAME ASSEMBLY(50AQ)	AAP1263
	2	FRESNEL (50A)	AMR2413
	3	SMOKE LENTICULAR SHEET(50)	AMR2392
	4	SCREW	BYC40P200FMC
	5	SCREW	BYC35P120FZB
	6	SCREW	ABA1067
NSP	51	UPPER METAL FRAME	ANG1663
NSP	52	FRAME HOLDER	ANG1687
NSP	53	FRAME UNDER HOLDER	ANG1686
NSP	54	FRAME UPPER HOLDER A	ANG1684
NSP	55	FRAME UPPER HOLDER B	ANG1685

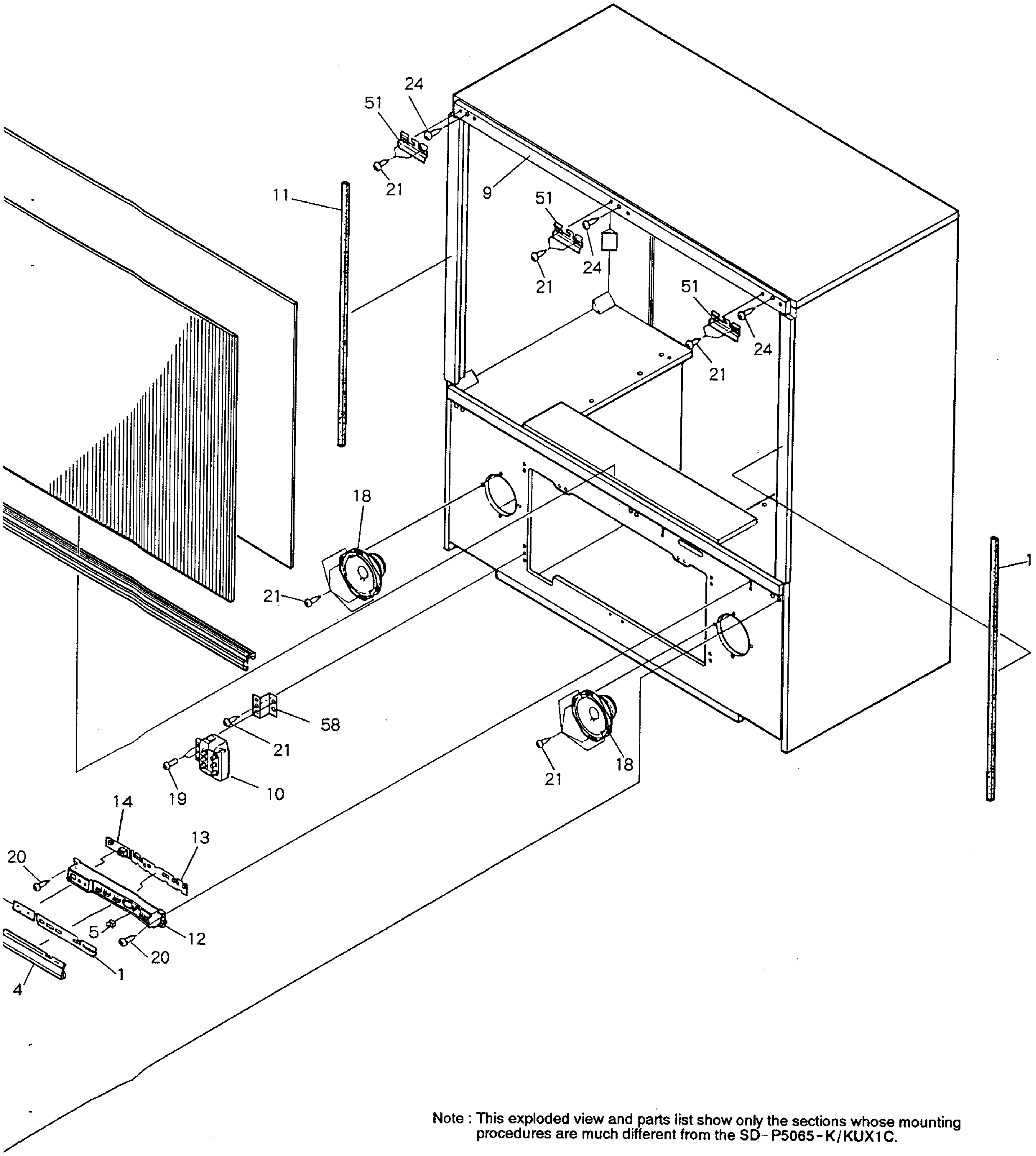


Note : This exploded view and parts list show only the sections whose mounting procedures are much different from the SD-P5065-K/KUX1C.

4.1.6 SD-P5062-Q, SD-P4562-Q and SD-P4561-Q/KUX1C

Mark	No.	Description	Part No.
	1	CONTROL SHEET	AAK2314
	2	INDICATOR PANEL	AAK2315
	3	BADGE(BLACK)	AAM1049
	4	DOOR (SD-P5062-Q)	AAN1331
	4	DOOR (SD-P4562-Q)	AAN1320
	4	DOOR (SD-P4561-Q)	AAN1332
	5	CACHER	AEC1012
NSP	6	SCREEN HOLDER 50B (SD-P5062-Q)	AAP1262
NSP	6	SCREEN HOLDER 45B (SD-P4562-Q AND SD-P4561-Q)	AAP1261
	7	SCREEN FRAME HV(50B) (SD-P5062-Q)	AAP1331
	7	SCREEN FRAME HV(45B) (SD-P4562-Q AND SD-P4561-Q)	AAP1330
	8	SCREEN FRAME UH(50B) (SD-P5062-Q)	AAP1335
	8	SCREEN FRAME UH(45B) (SD-P4562-Q AND SD-P4561-Q)	AAP1334
NSP	9	SCREEN SPACER 50B (SD-P5062-Q)	AAP1288
NSP	9	SCREEN SPACER 45B (SD-P4562-Q AND SD-P4561-Q)	AAP1287
	10	FOCUS VR(VR1)	ACX1073
	11	SCREEN CUSHON 50B (SD-P5062-Q)	AEC1413
	11	SCREEN CUSHON 45B (SD-P4562-Q AND SD-P4561-Q)	AEC1406
	12	CONTROL PANEL	AMB1964
	13	FRONT CONTROL ASSEMBLY	AWZ4241
	14	RECEIVER ASSEMBLY	AWZ4242
	15	GRILLE 50B ASSEMBLY (SD-P5062-Q)	AMR2370
	15	GRILLE 45B ASSEMBLY (SD-P4562-Q AND SD-P4561-Q)	AMR2366
	16	LENTICULAR SHEET (50B) (SD-P5062-Q)	AMR2411
	16	LENTICULAR SHEET (45B) (SD-P4562-Q AND SD-P4561-Q)	AMR2410
	17	FRESNEL(50B) (SD-P5062-Q)	AMR2415
	17	FRESNEL(45B) (SD-P4562-Q AND SD-P4561-Q)	AMR2395
	18	CONE SPEAKER	APV1023
	19	SCREW	BBZ30P120FZK
	20	SCREW	BYC35P160FZK
	21	SCREW	BYC35P120FZB
	22	SCREW	ABA1067
	23	SCREW	BYC40P120FZK
	24	SCREW	ABA1151

Mark	No.	Description	Part No.
NSP	51	UPPER METAL FRAME	ANG1676
NSP	52	UPPER FRAME STAY	ANG1677
NSP	53	UPPER CORNER STAY R	ANG1678
NSP	54	UNDER CORNER STAY L	ANG1679
NSP	55	UNDER CORNER STAY R	ANG1680
NSP	56	UPPER CORNER STAY L	ANG1681
NSP	57	UNDER FRAME STAY (SD-P5062-Q ONLY)	ANG1682
NSP	58	VR HOLDER	ANG1404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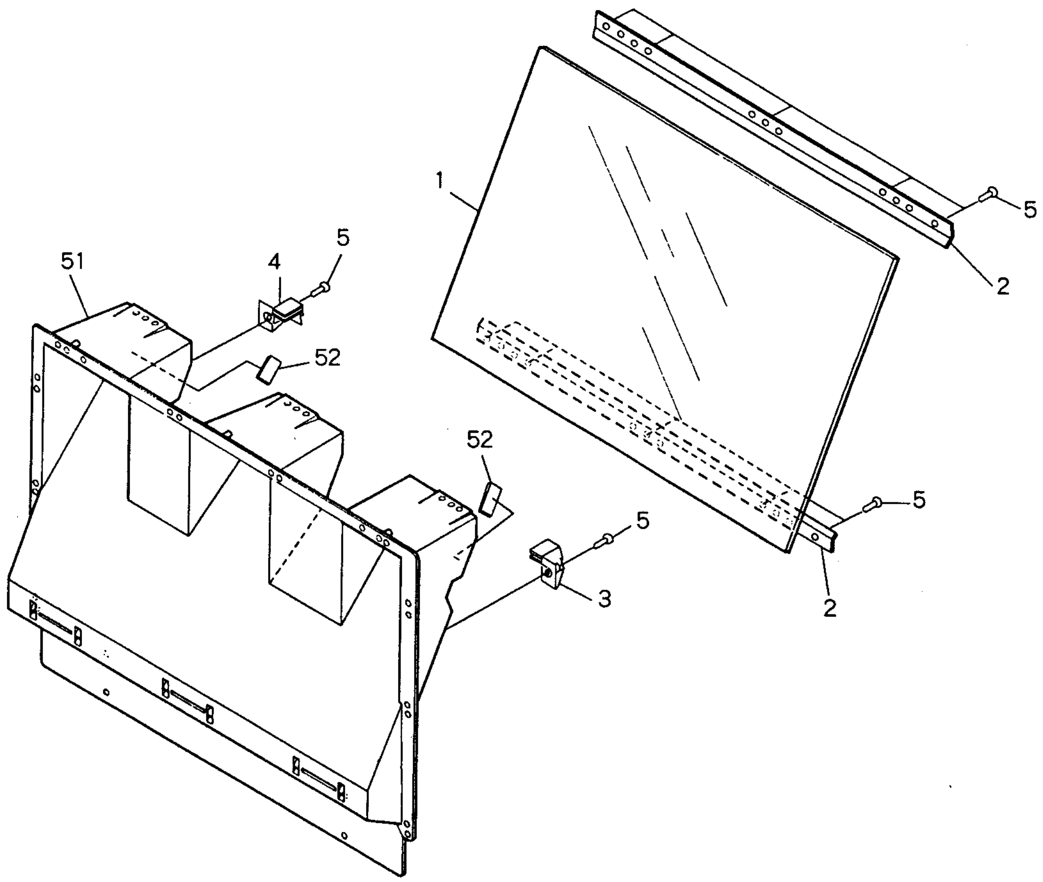
Note : This exploded view and parts list show only the sections whose mounting procedures are much different from the SD-P5065-K/KUX1C.

4.1.7 SD-P5565-K,SD-P5564-K and SD-P5564-Q/KUX1C

Mark	No.	Description	Part No.
	1	MIRROR (55)	AMR2421
	2	MIRROR HOLDER (55)	AMR2416
	3	MIRROR SIDE HOLDER L	AMR2470
	4	MIRROR SIDE HOLDER R	AMR2471
	5	SCREW	VPZ40P160FZK
NSP	51	MIRROR CASE (55)	AME1080
NSP	52	MIRROR CUSHION	AEC1242

Note : This exploded view and parts list show only the sections whose mounting procedures are much different from the SD-P5065-K/KUX1C.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4.2 40" MODEL

4.2.1 SD-P4063-K/KUX1C

(1) Parts List

Mark	No.	Description	Part No.
⚠	1	FOCUS VR	ACX1073
⚠	2	DEFLECTION YOKE (L1)	ATL1086
⚠	3	DEFLECTION YOKE (L2)	ATL1086
⚠	4	DEFLECTION YOKE (L3)	ATL1087
⚠	5	FUSE(6.3A, FU103)	AEK-309
⚠	6	FUSE(6.3A, FU105)	AEK-309
⚠	7	FUSE(4A, FU104)	AEK1018
⚠	8	FUSE(4A, FU106)	AEK1018
	9	CONE SPEAKER	APV1021
⚠	10	AC POWER CORD	ADG1058
	11	CASTER	AMR2127
	12	RIVET	AEC-441
	13	CUSHION	AEC1210
	14	MIRROR CASE CUSHION	AEC1349
	15	CORD STOPPER	AEP-113
	16	MIRROR	AMR1523
☆	17	LENS ASSEMBLY (R)	AMR2387
	18	LENTICULAR SHEET(40)	AMR2390
	19	FRESNEL (40)	AMR2394
	20	TAPPING SCREW(STEEL)	ABA1069
	21	SCREW	ABA1099
	22	SPECIAL SCREW	ABA1121
	23	M5 SCREW	ABA1161
	24	SCREW	ABA1124
	25	SCREW	ABA1168
	26	HEXAGONAL DUCT NUT	ABN-087
	27	SCREW	ABZ30P080FZK
	28	SCREW	ABZ30P100FMC
	29	SCREW	ABZ30P120FZK
	30	SCREW	ACZ40P080FMC
	31	SCREW	AMZ40P080FZK
	32	SCREW	APZ30P080FZK
	33	SCREW	BBZ30P080FZK
	34	SCREW	BPZ30P120FZK
	35	SCREW	BYC35P120FZB
	36	SCREW	BYC40P160FMC
	37	SCREW	BYC40P200FMC
	38	SCREW	BYC40P300FMC
	39	SCREW	FBT40P120FZK
	40	SCREW	PMB50P250FZB
	41	SCREW	VBT30P080FZK
	42	SCREW	VBZ30P200FMC
	43	SCREW	VCZ30P060FMC
	44	SCREW	VPZ40P120FMC
	45	SCREW	VPZ40P160FZK
	46	WASHER	WAX0F160N100
	47	DOOR	AAN1122
	48	FRONT PANEL ASSEMBLY	AMB1475
	49	SIDE PANEL L	AMB1476
	50	SIDE PANEL R	AMB1477
	51	PLATE B	AAK1705
	52	PLATE C	AAK1706
	53	PLATE A	AAK2292
	54	BADGE	AAM1033
	55	SIDE COVER ASSEMBLY	AAP1183
	56	PLATE D	AAK2327
	57	GRILLE (K3)	AMB1983
	58	FRONT CABINET ASSEMBLY	AMB1984
	59	REAR COVER	AME1036
	60	MIRROR CASE	AME1037
	61	CATCHER	AEC1012
	62	OPERATING INSTRUCTIONS (ENGLISH)	ARB1396
	63	ATTENTION CARD	ARM1054
	64	REMOTE CONTROL UNIT	AXD1301
	65	UPPER PAD L	AHA1262
	66	UPPER PAD R	AHA1263
	67	UNDER PAD L	AHA1264
	68	UNDER PAD R	AHA1265
	69	UNDER CARTON	AHD1686
	70	UPPER CARTON	AHD2252
⚠ ☆	71	CRT ASSEMBLY G	AWY1179
⚠ ☆	72	CRT ASSEMBLY R	AWY1180
⚠ ☆	73	CRT ASSEMBLY B	AWY1181
	74	TUNER-VIDEO ASSEMBLY	AWV1255
☆	75	POWER SUPPLY ASSEMBLY	AWV1289
	76	CONVERGENCE ASSEMBLY	AWZ4178
	77	R.CRT DRIVE ASSEMBLY	AWZ4179
	78	G.CRT DRIVE ASSEMBLY	AWZ4180
	79	B.CRT DRIVE ASSEMBLY	AWZ4181
	80	AUDIO SELECTOR ASSEMBLY	AWZ4185
	81	Y/C SELECTOR ASSEMBLY	AWZ4244
	82	PINP SELECTOR ASSEMBLY	AWZ4188
	83	AV I/O-PINP-Y/C SEP ASSEMBLY	AWZ4195
	84	REC MUTE ASSEMBLY	AWZ4470
	85	RECEIVER ASSEMBLY	AWZ4233
☆	86	V-AMP ASSEMBLY	AWZ4191
	87	A CONNECTOR ASSEMBLY	AWZ4211
	88	B CONNECTOR ASSEMBLY	AWZ4212
	89	MICROCOMPUTER ASSEMBLY	AWZ4231
	90	FRONT CONTROL ASSEMBLY	AWZ4232
	91	FRONT TERMINAL ASSEMBLY	AWZ4234
☆	92	LENS ASSEMBLY(BB)	AMR2430
NSP	201	CHASSIS R	ANA1165
NSP	202	CHASSIS L	ANA1166
NSP	203	CRT STAND HOLDER L	ANA1173
NSP	204	CRT STAND HOLDER R	ANA1174
NSP	205	CRT STAND 40	ANA1188
NSP	206	REAR PANEL	ANC1877
NSP	207	CONVERGENCE STAY	AND1035
NSP	208	MIRROR HOLDER	ANG1285
NSP	209	SCREEN HOLDER	ANG1379
NSP	210	PCB STAND	ANG1640
NSP	211	PCB FRAME	ANG1641
NSP	212	CORD PLATE 40	ANG1656
NSP	213	BINDER	AEP-215
NSP	214	CUSHION SHEET A	AEC1110
NSP	215	CUSHION SHEET B	AEC1111

Mark	No.
NSP	21
NSP	21
NSP	21
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NSP	22
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NSP	22
NSP	22
NSP	22
NSP	22

(2) Packin

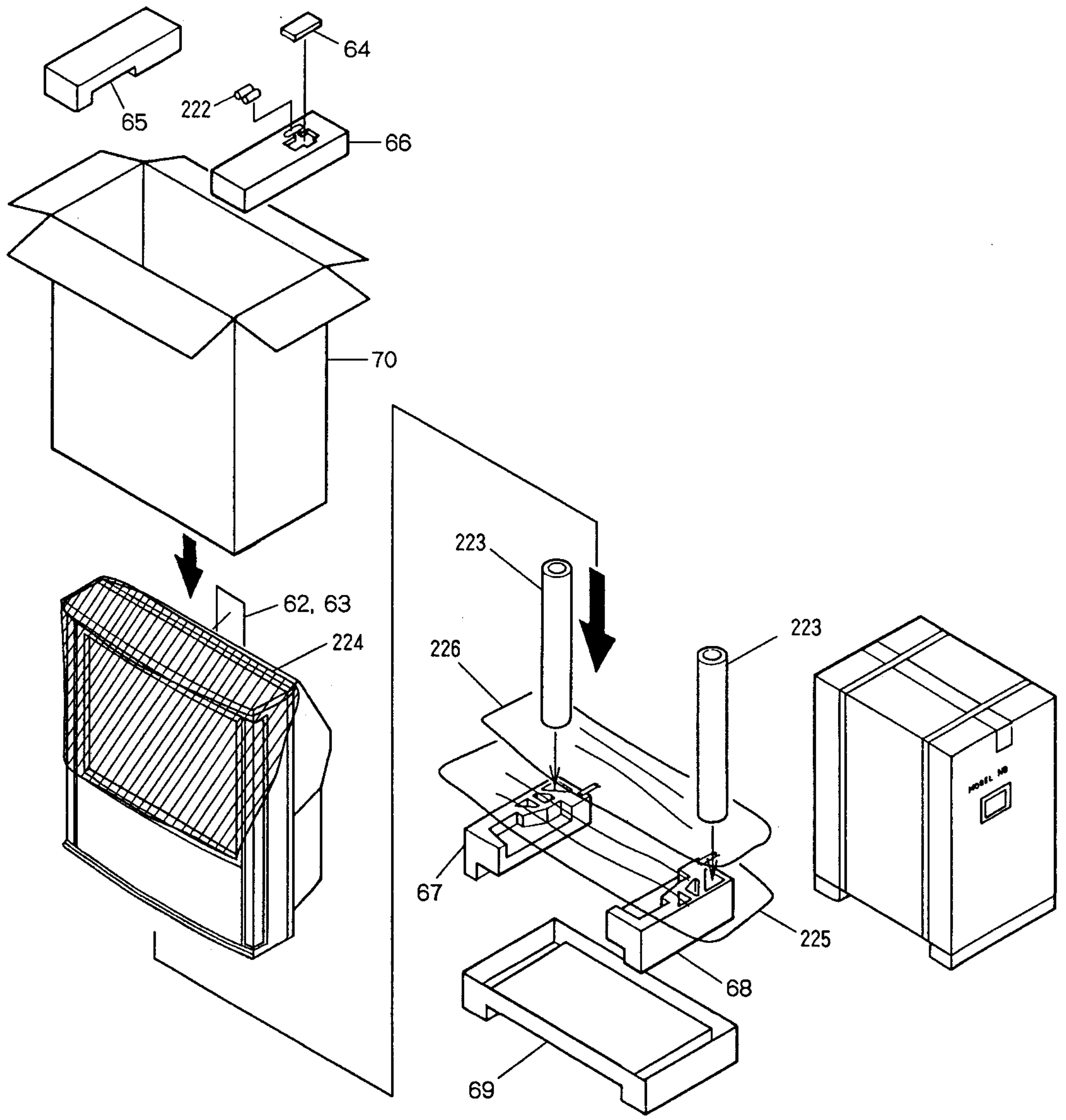
.2 40” MODEL

.2.1 SD-P4063-K/KUX1C

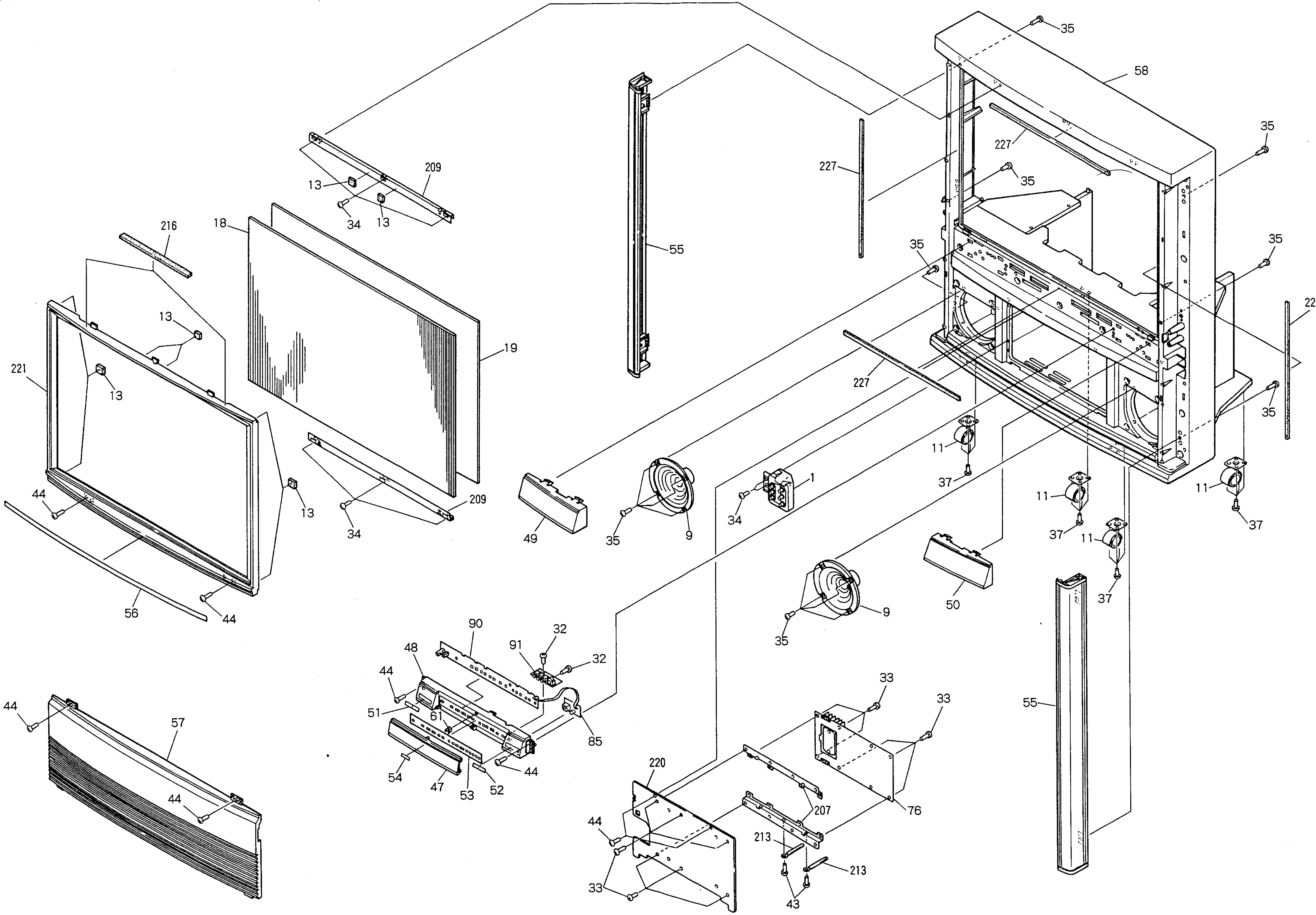
1) Parts List

Mark	No.	Description	Part No.
⚠	1	FOCUS VR	ACX1073
⚠	2	DEFLECTION YOKE (L1)	ATL1086
⚠	3	DEFLECTION YOKE (L2)	ATL1086
⚠	4	DEFLECTION YOKE (L3)	ATL1087
⚠	5	FUSE(6.3A, FU103)	AEK-309
⚠	6	FUSE(6.3A, FU105)	AEK-309
⚠	7	FUSE(4A, FU104)	AEK1018
⚠	8	FUSE(4A, FU106)	AEK1018
	9	CONE SPEAKER	APV1021
⚠	10	AC POWER CORD	ADG1058
	11	CASTER	AMR2127
	12	RIVET	AEC-441
	13	CUSHION	AEC1210
	14	MIRROR CASE CUSHION	AEC1349
	15	CORD STOPPER	AEP-113
	16	MIRROR	AMR1523
☆	17	LENS ASSEMBLY (R)	AMR2387
	18	LENTICULAR SHEET(40)	AMR2390
	19	FRESNEL (40)	AMR2394
	20	TAPPING SCREW(STEEL)	ABA1069
	21	SCREW	ABA1099
	22	SPECIAL SCREW	ABA1121
	23	M5 SCREW	ABA1161
	24	SCREW	ABA1124
	25	SCREW	ABA1168
	26	HEXAGONAL DUCT NUT	ABN-087
	27	SCREW	ABZ30P080FZK
	28	SCREW	ABZ30P100FMC
	29	SCREW	ABZ30P120FZK
	30	SCREW	ACZ40P080FMC
	31	SCREW	AMZ40P080FZK
	32	SCREW	APZ30P080FZK
	33	SCREW	BBZ30P080FZK
	34	SCREW	BPZ30P120FZK
	35	SCREW	BYC35P120FZB
	36	SCREW	BYC40P160FMC
	37	SCREW	BYC40P200FMC
	38	SCREW	BYC40P300FMC
	39	SCREW	FBT40P120FZK
	40	SCREW	PMB50P250FZB
	41	SCREW	VBT30P080FZK
	42	SCREW	VBZ30P200FMC
	43	SCREW	VCZ30P060FMC
	44	SCREW	VPZ40P120FMC
	45	SCREW	VPZ40P160FZK
	46	WASHER	WAX0F160N100
	47	DOOR	AAN1122
	48	FRONT PANEL ASSEMBLY	AMB1475
	49	SIDE PANEL L	AMB1476
	50	SIDE PANEL R	AMB1477
	51	PLATE B	AAK1705
	52	PLATE C	AAK1706
	53	PLATE A	AAK2292
	54	BADGE	AAM1033
	55	SIDE COVER ASSEMBLY	AAP1183
	56	PLATE D	AAK2327
	57	GRILLE (K3)	AMB1983
	58	FRONT CABINET ASSEMBLY	AMB1984
	59	REAR COVER	AME1036
	60	MIRROR CASE	AME1037
	61	CATCHER	AEC1012
	62	OPERATING INSTRUCTIONS (ENGLISH)	ARB1396
	63	ATTENTION CARD	ARM1054
	64	REMOTE CONTROL UNIT	AXD1301
	65	UPPER PAD L	AHA1262
	66	UPPER PAD R	AHA1263
	67	UNDER PAD L	AHA1264
	68	UNDER PAD R	AHA1265
	69	UNDER CARTON	AHD1686
	70	UPPER CARTON	AHD2252
⚠ ☆	71	CRT ASSEMBLY G	AWY1179
⚠ ☆	72	CRT ASSEMBLY R	AWY1180
⚠ ☆	73	CRT ASSEMBLY B	AWY1181
	74	TUNER-VIDEO ASSEMBLY	AWV1255
☆	75	POWER SUPPLY ASSEMBLY	AWV1289
	76	CONVERGENCE ASSEMBLY	AWZ4178
	77	R.CRT DRIVE ASSEMBLY	AWZ4179
	78	G.CRT DRIVE ASSEMBLY	AWZ4180
	79	B.CRT DRIVE ASSEMBLY	AWZ4181
	80	AUDIO SELECTOR ASSEMBLY	AWZ4185
	81	Y/C SELECTOR ASSEMBLY	AWZ4244
	82	PINP SELECTOR ASSEMBLY	AWZ4188
	83	AV I/O-PINP-Y/C SEP ASSEMBLY	AWZ4195
	84	REC MUTE ASSEMBLY	AWZ4470
	85	RECEIVER ASSEMBLY	AWZ4233
☆	86	V-AMP ASSEMBLY	AWZ4191
	87	A CONNECTOR ASSEMBLY	AWZ4211
	88	B CONNECTOR ASSEMBLY	AWZ4212
	89	MICROCOMPUTER ASSEMBLY	AWZ4231
	90	FRONT CONTROL ASSEMBLY	AWZ4232
	91	FRONT TERMINAL ASSEMBLY	AWZ4234
☆	92	LENS ASSEMBLY(BB)	AMR2430
NSP	201	CHASSIS R	ANA1165
NSP	202	CHASSIS L	ANA1166
NSP	203	CRT STAND HOLDER L	ANA1173
NSP	204	CRT STAND HOLDER R	ANA1174
NSP	205	CRT STAND 40	ANA1188
NSP	206	REAR PANEL	ANC1877
NSP	207	CONVERGENCE STAY	AND1035
NSP	208	MIRROR HOLDER	ANG1285
NSP	209	SCREEN HOLDER	ANG1379
NSP	210	PCB STAND	ANG1640
NSP	211	PCB FRAME	ANG1641
NSP	212	CORD PLATE 40	ANG1656
NSP	213	BINDER	AEP-215
NSP	214	CUSHION SHEET A	AEC1110
NSP	215	CUSHION SHEET B	AEC1111
NSP	216	SCREEN FRAME CUSHION	AEC1366
NSP	217	CRT BLOCK	AMM1972
NSP	218	COVER PANEL	AMM1982
NSP	219	TRAY	AMR2283
NSP	220	BLIND PLATE	AMR2289
NSP	221	SCREEN FRAME(K)	AMB1543
NSP	222	ALKALINE(LR6, AA)	AEX1007
NSP	223	CLYINDRICAL SUPPORT	AHB1048
NSP	224	VINYL SHEET L	AHG1101
NSP	225	VINYL SHEET S	AHG1102
NSP	226	PACKING SHEET	AHG1156
NSP	227	S SPACER V	AEC1356
NSP	228	CABINET WIRE HOLDER	AEC1263

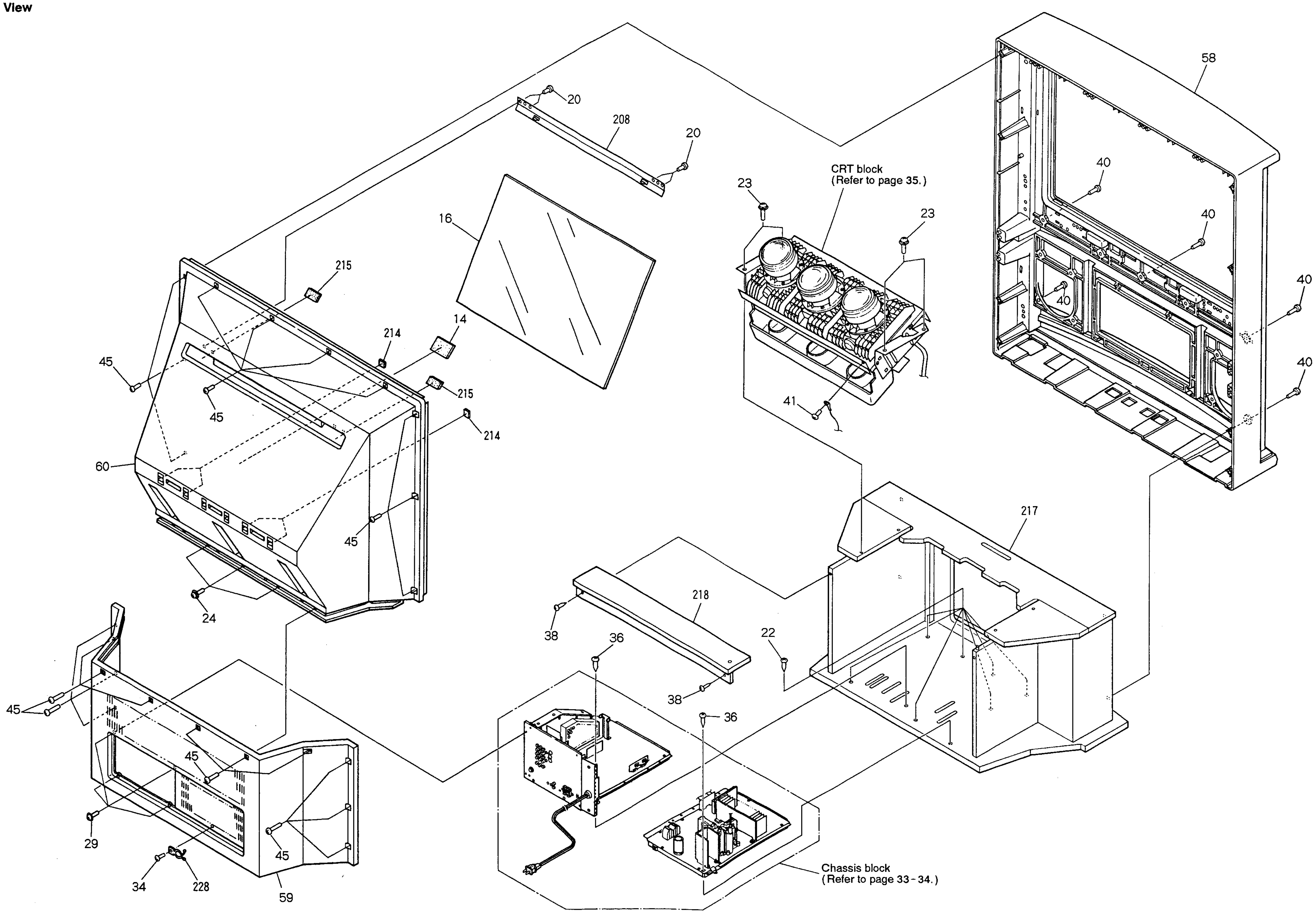
(2) Packing



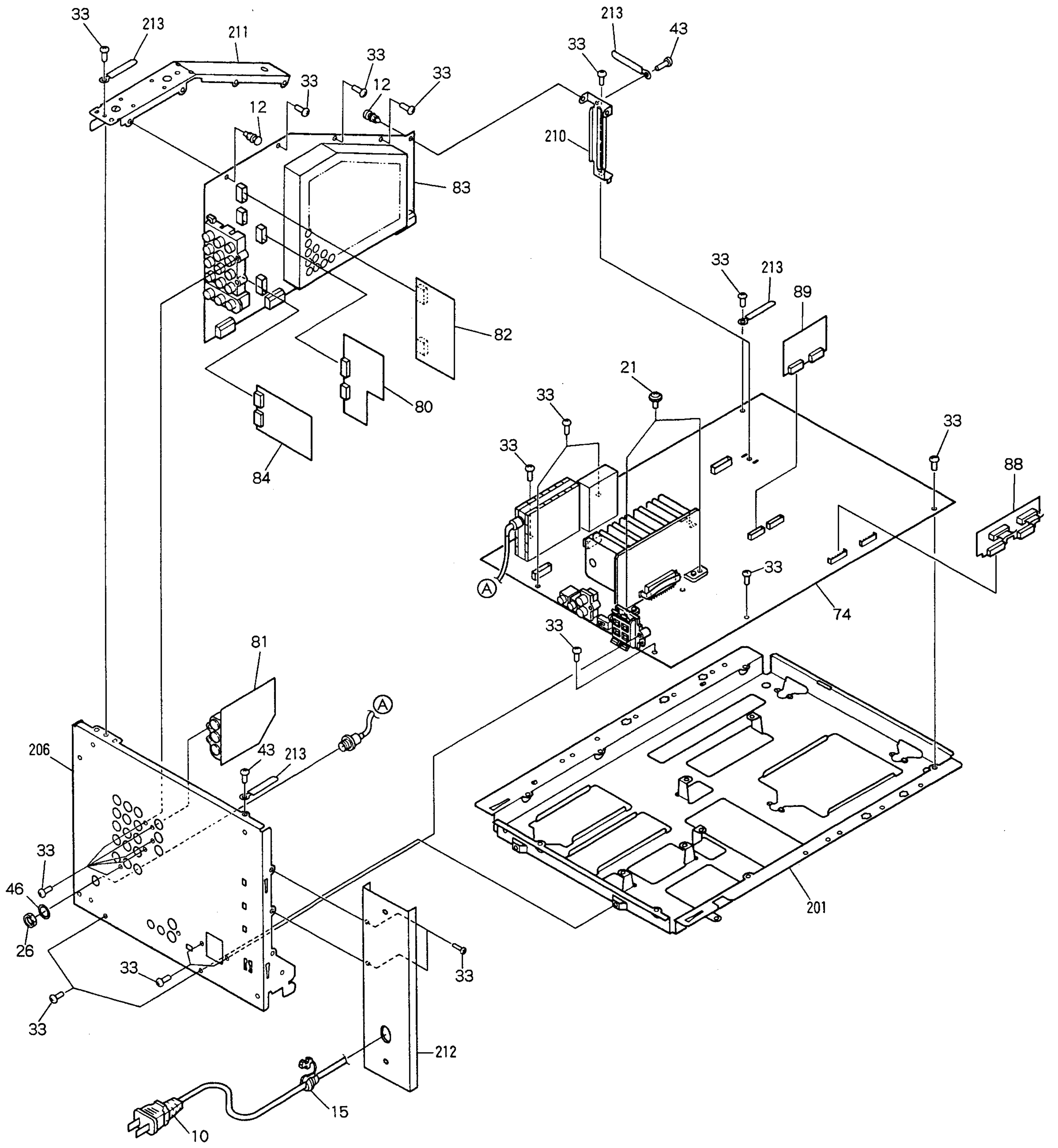
(3) Front View



(4) Rear View


CRT block
(Refer to page 35.)
Chassis block
(Refer to page 33-34.)

(5) Chassis Block


33
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211
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212
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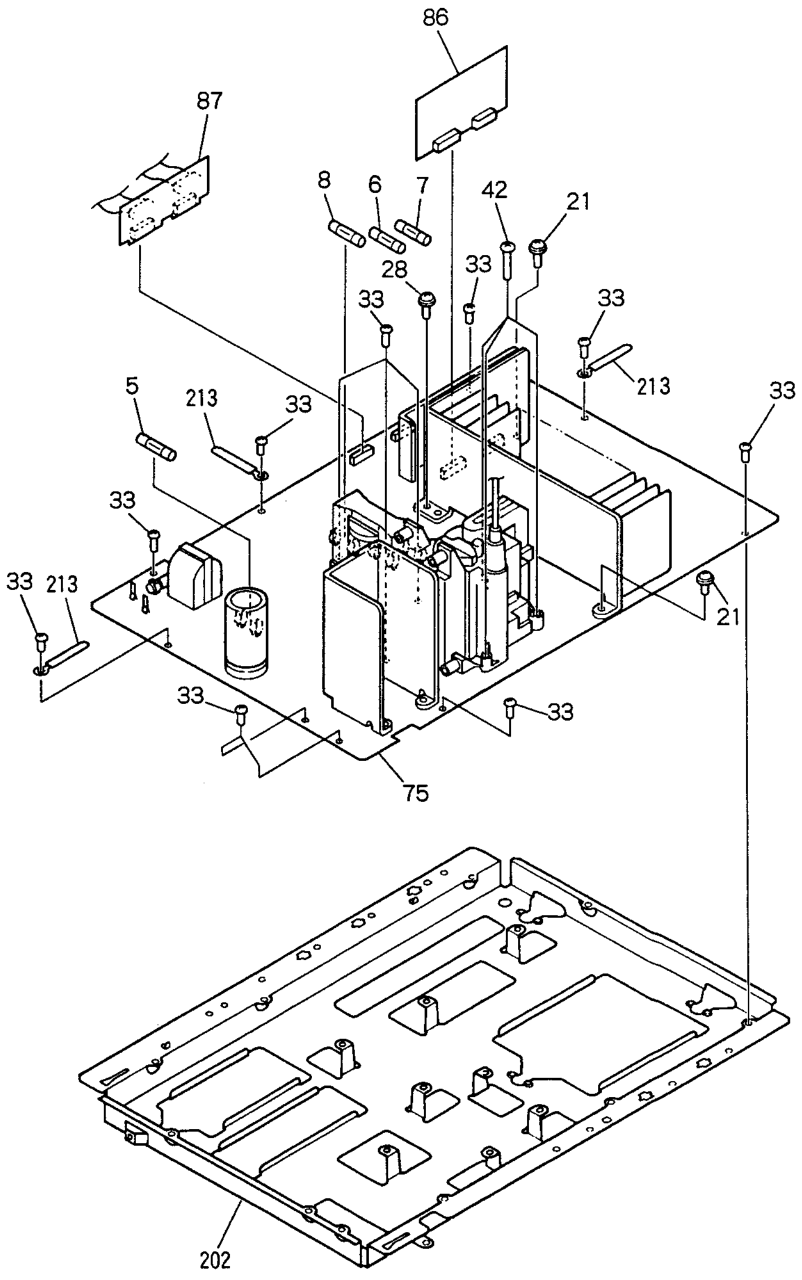
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213
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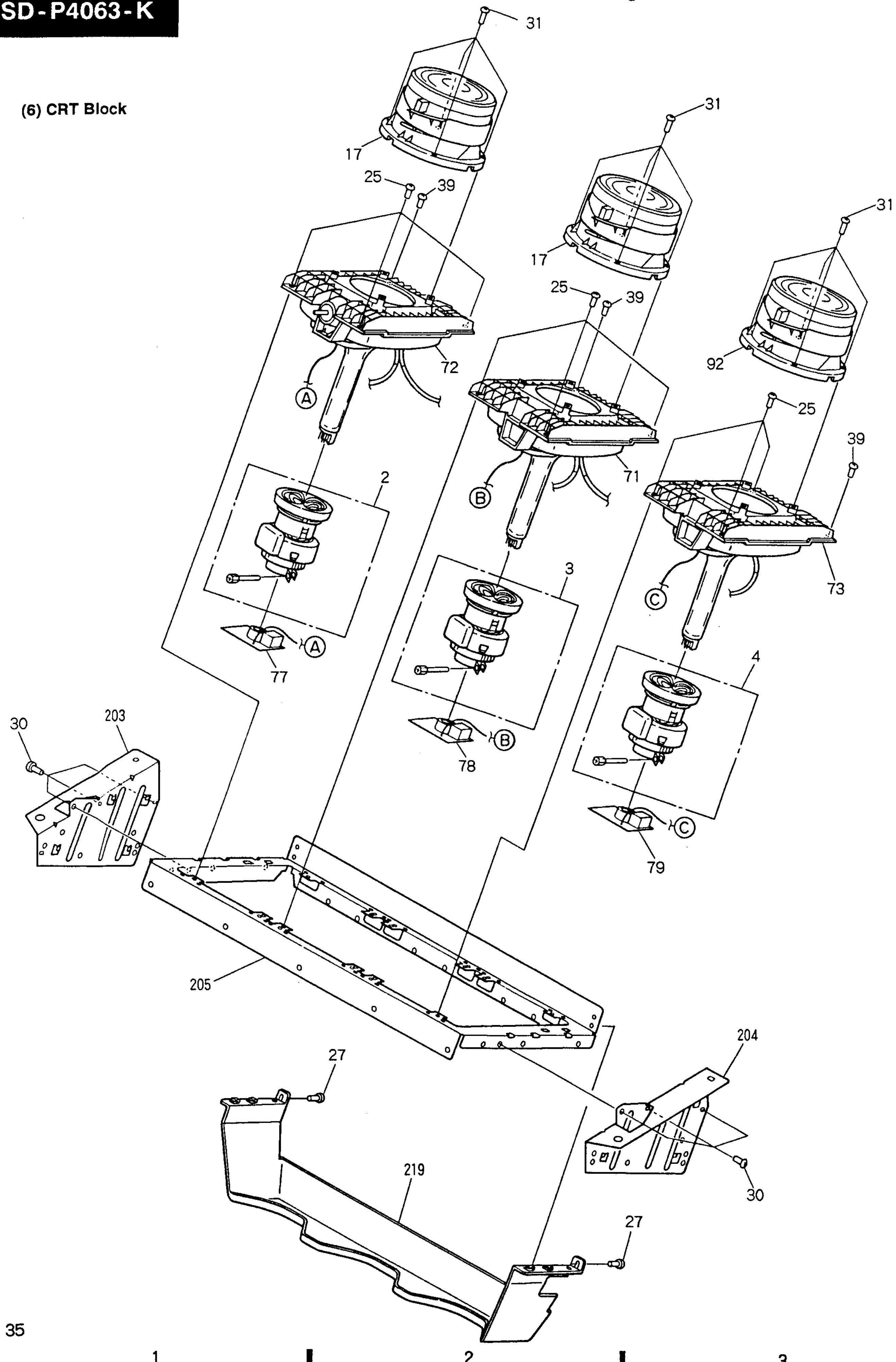
33
75
202

(6) CRT Block


31
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92
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2
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Ⓒ
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27

5. REPLACING THE CRT ASSEMBLY

Serviceman Warning
When replacing the CRT assembly, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minute.

The anode cables of the CRT assembly R, G, and B in PROJECTION MONITOR RECEIVER are connected in series as shown in Fig. 5-1.
When replacing the CRT assembly, the anode cable have to be cut.

Note: Since the anode cables for the CRT assembly to service supplies are only available in half lengths, either cut longer lengths, or join older lengths of cable to ensure that the original cable length is used.

Table 5-1 Cable disconnecting methods

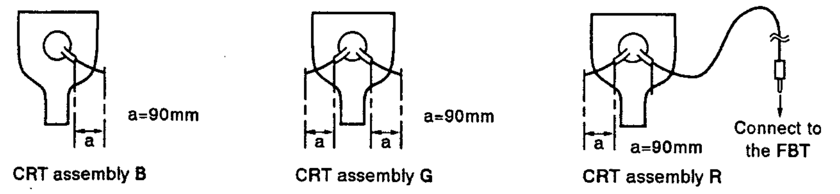
Cable	Replacement CRT assembly		
	When CRT assembly B is replaced	When CRT assembly G is replaced	When CRT assembly R is replaced
Cable ⓐ	——	——	Disconnect the anode cable from the FBT. (Refer to page 18 in Adjustment information.)
Cable ⓑ	Leave it as is	Cut a place 20mm from the exact center towards the CRT assembly G	Cut a place 20mm from the exact center towards the CRT assembly R
Cable ⓒ	Cut a place 20mm from the exact center towards the CRT assembly B	Cut a place 20mm from the exact center towards the CRT assembly G	Leave it as is

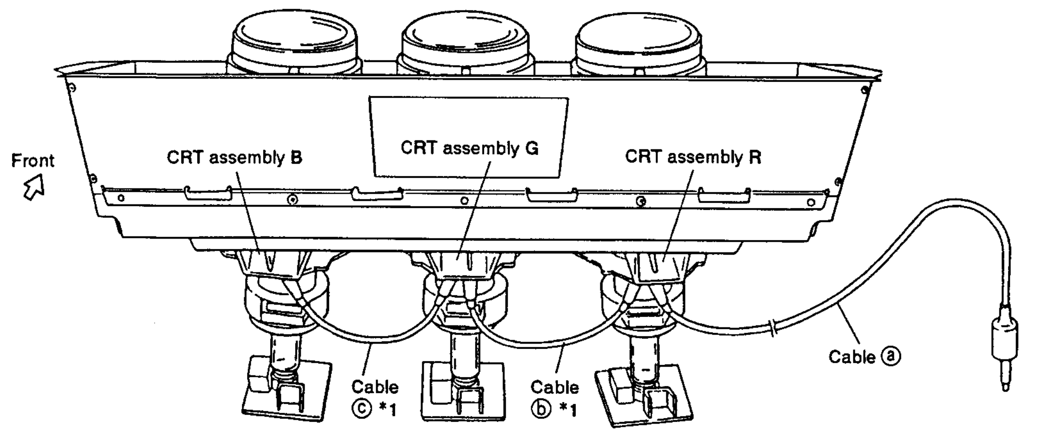
Note: Do not cut other cables by mistake.

5.1 WHEN REPLACING THE CRT ASSEMBLY

Unplug the AC plug and let the unit discharge for more than 1 minute, then cut the anode cable according to table 5-1.

Each CRT assembly supplied as a spare part is as shown below.


a
a=90mm
CRT assembly B
a
a
a=90mm
CRT assembly G
a
a=90mm
Connect to the FBT
CRT assembly R


Front
CRT assembly B
CRT assembly G
CRT assembly R
Cable ⓐ
Cable ⓒ *1
Cable ⓑ *1

*1: Length of cable ⓒ and ⓑ is 180mm.

Fig. 5-1 Connection diagram of the each CRT assemblies

5.2 ANODE CABLE SHEATH PEELING

- Peel the sheath of the end of cut anode cable and new anode cable.
- The anode cable structure is outlined in Fig. 5-2. Note that the sheath consists of two layers.
- The method used to peel the sheath back is illustrated in Fig. 5-3. Use a cutter knife, taking care not to damage the core leads.

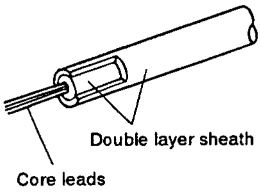

Double layer sheath
Core leads

Fig. 5-2 Anode cable structure

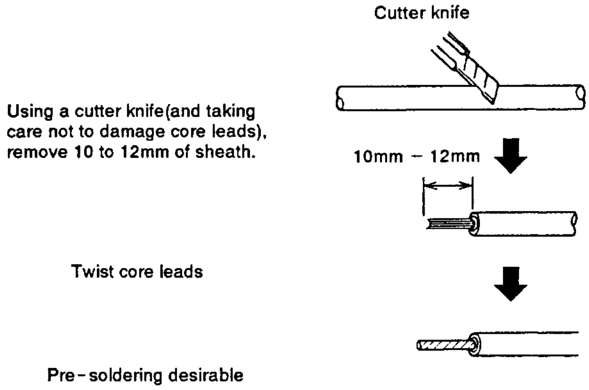
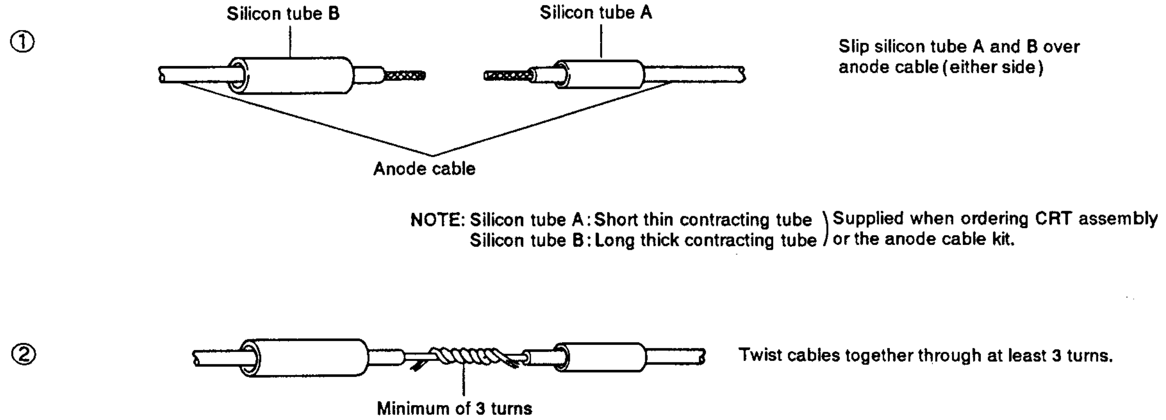

Cutter knife
Using a cutter knife(and taking care not to damage core leads), remove 10 to 12mm of sheath.
10mm – 12mm
Twist core leads
Pre-soldering desirable

Fig. 5-3 Anode cable sheath peeling

5.3 ANODE CABLE JOINING PROCEDURE

- Join the cut anode cable and the new anode cable to restore as shown in Fig. 5-1. Also, when replacing the FBT, refer to page 18 in Adjustment information.
- Slip two silicon tubes(silicon tubes A and B in Fig. 5-4) over the anode cables before making the join.
- The silicon adhesive is applied to guard the cable core leads from external air. Apply binder liberally. After completing the joint (at step ⑩ in Fig. 5-4-1 thru 3), check that there is no hole in the silicon binder and the tube interior cannot be seen.
- Leave the silicon adhesive to harden overnight.

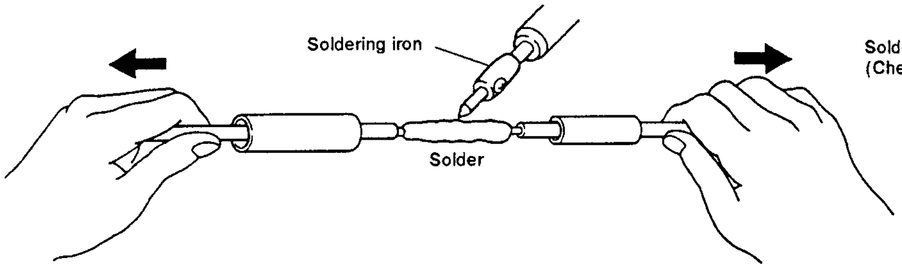
CAUTION: For the silicon adhesive, be sure to use silicon adhesive part no. GYL-017.


①
Silicon tube B
Silicon tube A
Slip silicon tube A and B over anode cable (either side)
Anode cable
②
Twist cables together through at least 3 turns.
Minimum of 3 turns

NOTE: Silicon tube A: Short thin contracting tube
Silicon tube B: Long thick contracting tube
Supplied when ordering CRT assembly or the anode cable kit.

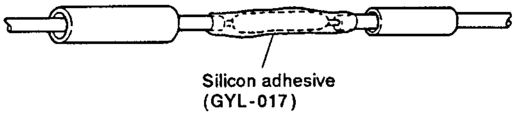
Fig. 5-4-1 Anode cable joining procedure (1)

③


Soldering iron
Solder

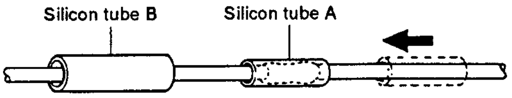
Solder the joint, and pull at both ends.
(Check against faulty soldering.)

④


Silicon adhesive
(GYL-017)

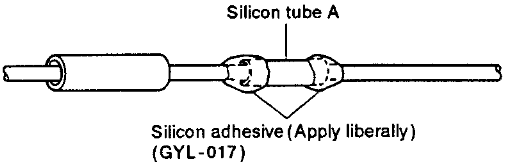
Apply silicon adhesive liberally.
(Cover the entire soldered section and remaining bare core leads.)

⑤


Silicon tube B
Silicon tube A

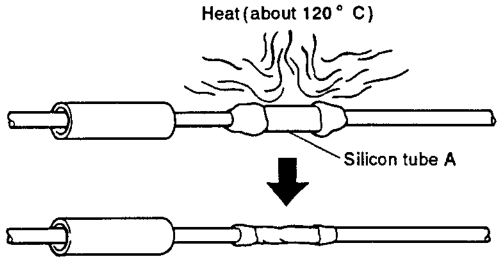
Cover the silicon adhesive section with silicon tube A.
(With the center of the silicon tube A corresponding to the solder section)

⑥


Silicon tube A
Silicon adhesive (Apply liberally)
(GYL-017)

Apply liberal amounts of silicon adhesive to both ends of silicon tube A

⑦

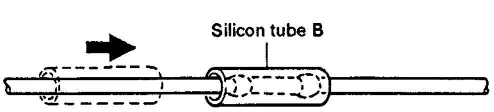

Heat (about 120° C)
Silicon tube A

Apply heat (about 120° C) to contract silicon tube A.

Note: Use an industrial drier or soldering iron as the heat source.

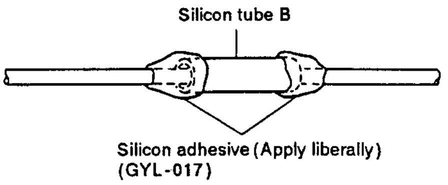
Check that the silicon adhesive has been applied evenly without air pockets etc. If there are any pockets etc, apply additional silicon adhesive.

⑧


Silicon tube B

Slip silicon tube B over silicon tube A.
(With the center of silicon tube B also corresponding to the solder section)

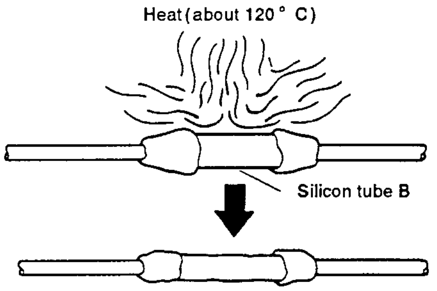
⑨


Silicon tube B
Silicon adhesive (Apply liberally)
(GYL-017)

Apply liberal amounts of silicon adhesive to both ends of silicon tube B.

Fig. 5-4-2 Anode cable joining procedure (2)

⑩

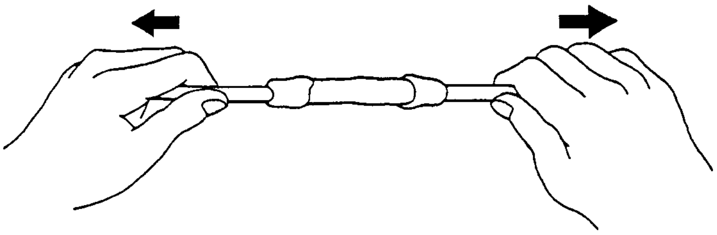


Apply heat(about 120° C)to contract silicon tube B.

Note: Use an industrial drier or soldering iron as the heat source.

Check that the silicon adhesive has been applied evenly without air pockets etc. If there are any pockets etc, apply additional silicon adhesive.

⑪



Gently tug both ends to check that the cables do not separate.

Fig. 5-4-3 Anode cable joining procedure(3)

6. HOW TO CLEAN

Note:
Cleaning liquid B4(GEM1004) for LD players is usable for projection TV display.

Jigs

Use the following for cleaning optical components such as lens, mirror and screen.

Name	Number
Cleaning cloth, MINIMAX	GED-009
Cleaning liquid, B4	GEM1004

Note: Wear gloves when holding optical components lest you should make fingerprints.

6.1 Method of Cleaning Lenses and Mirrors

1. Remove dust with an airbrush.
2. Apply some cleaning liquid to the cloth and wipe the dirt off with the cloth.
3. If the component is not so dirty, moisten it with breath and wipe it with the cloth.

Note: Wipe it softly lest you should scratch the lens.

6.2 Screen Cleaning

1. Apply the cleaning liquid to the above cloth or similar soft cloth and wipe the dirt off with the cloth.
2. Apply de-electrifier to the rear-surface or fresnellens side of the screen, or dust will stick on it.

Note:
(1) Apply no alcoholic liquid such as thinner and benzine to the front surface lest the black printing on the rear surface should come off.
(2) Use Ascetete-cloth tape, GYH1001, for sticking Fresnel lens and lenticular sheet together.

7. WIRING DIAGRAM

Reconnect any disconnected lead wires of the Projection monitor receiver.
Figs. 7-1 thru 7-3 show the important points for connection of the lead wires. You may find that they were connected differently. Be sure reconnect the lead wires as they were.

Note : Be careful of the lead wires will not touch the ▨ portion as illustrated below.

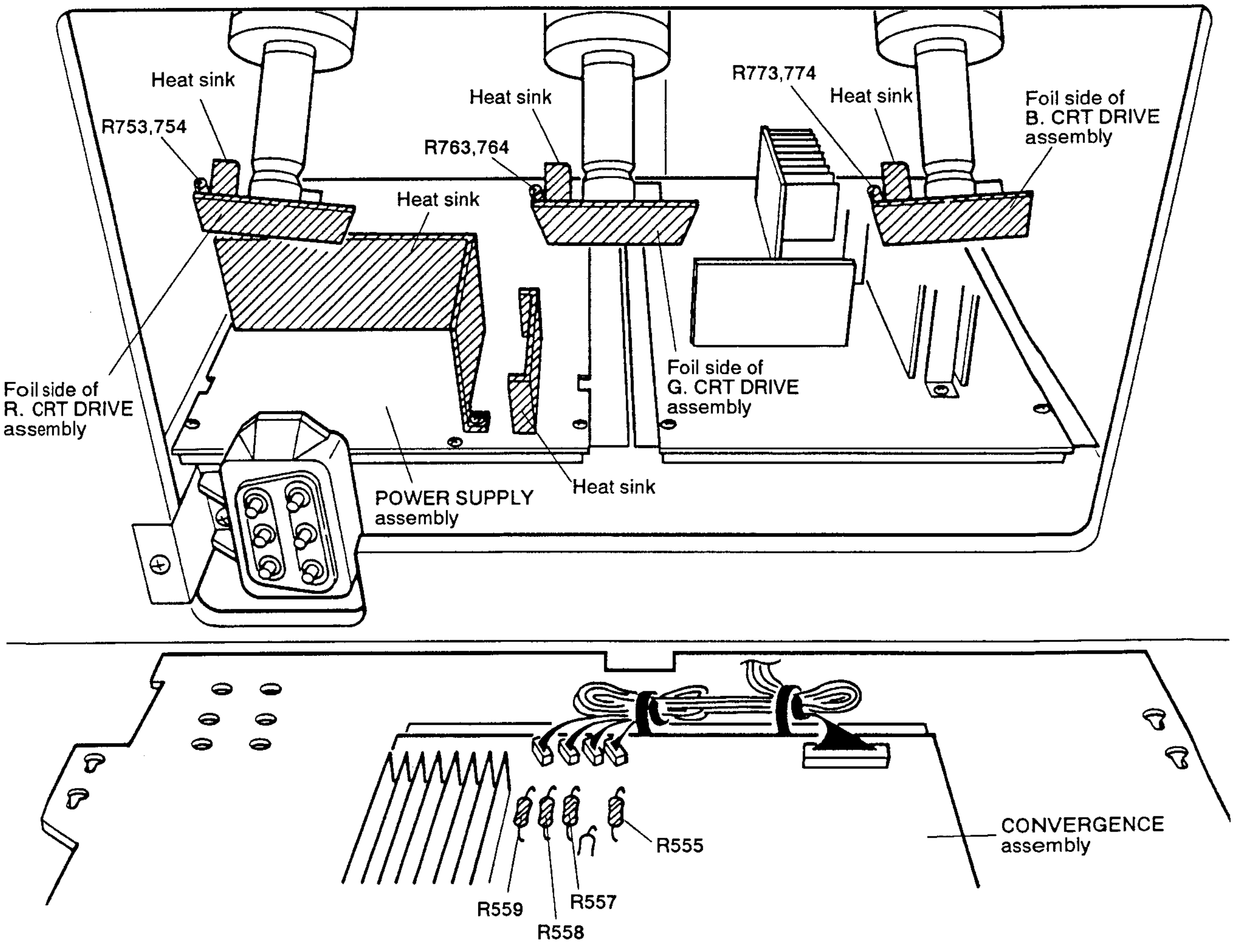
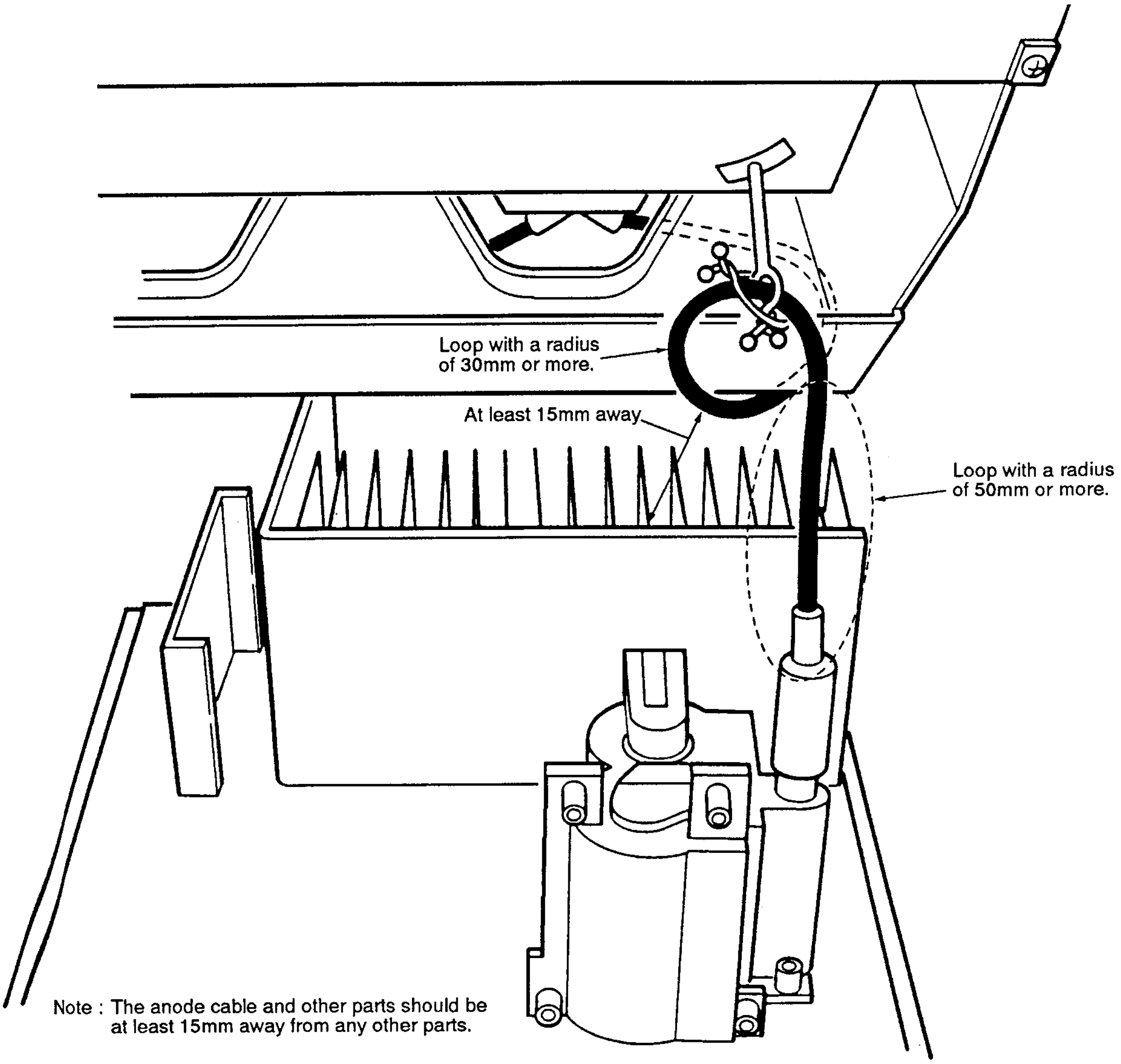
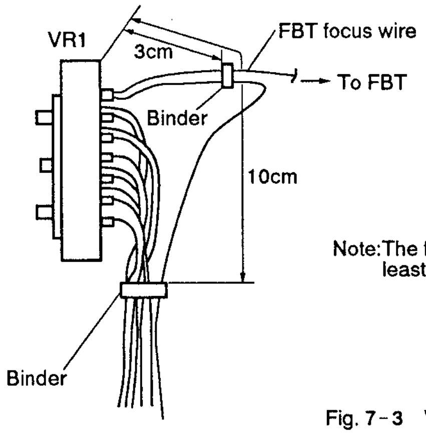

Heat sink
R753,754
Heat sink
R763,764
Heat sink
R773,774
Heat sink
Foil side of
B. CRT DRIVE
assembly
Foil side of
R. CRT DRIVE
assembly
Foil side of
G. CRT DRIVE
assembly
POWER SUPPLY
assembly
Heat sink
R555
CONVERGENCE
assembly
R559
R557
R558

Fig. 7-1 Wiring Diagram (1)


Loop with a radius of 30mm or more.
At least 15mm away
Loop with a radius of 50mm or more.

Note : The anode cable and other parts should be at least 15mm away from any other parts.

Fig. 7-2 Wiring Diagram (2)


VR1
3cm
FBT focus wire
To FBT
Binder
10cm
Binder

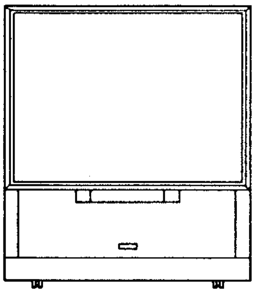
Note:The focus terminal and other parts should be at least 15mm away from any other parts.

Fig. 7-3 Wiring Diagram (3)

PION-03843

PIONEER®
The Art of Entertainment

Service Manual



• SD-P5065-K/KUX1C

ORDER NO.
ARP2566

PROJECTION MONITOR RECEIVER

'92 MODEL ADJUSTMENT INFORMATION

This service manual is applicable to all the following models.

Type	Family	Model				Power Requirement
		50" Size	45" Size	55" Size	40" Size	
KUX1C	65	SD-P5065-K SD-P5065-Q	SD-P4565-K SD-P4565-Q	SD-P5565-K	——	AC 120V only
	67	SD-P5067-Q	——	SD-P5567-Q	——	
	64	SD-P5064-K SD-P5064-Q	SD-P4564-K SD-P4564-Q	SD-P5564-K SD-P5564-Q	——	
	63	——	——	——	SD-P4063-K	
	62	SD-P5062-K SD-P5062-Q	SD-P4562-K SD-P4562-Q	——	——	
	61	——	SD-P4561-Q	——	SD-P4061-K	
	PRO	PRO-96	PRO-76	PRO-106	——	
S	——	SD-P5006	——	——	SD-P4006	AC 110V, 120V, 220V, 240V(switchable)
KCX1C	65	SD-P5065-K	——	SD-P5565-K	——	AC 120V only
	63	——	——	——	SD-P4063-K	
	62	——	SD-P4562-K	——	——	

- **This service manual describes general adjustments for the above models. For other information, refer to the service manual provided for each model.**

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PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
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PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911
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IFV JUNE 1992

'92 PROJECTION MONITOR RECEIVER ADJUSTMENT INFORMATION

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2. PRODUCT SAFETY NOTICE ············ 4
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5. CONVERGENCE ADJUSTMENT ············ 27

MANUAL CONFIGURATION

Two separate service-manual volumes, Electrical Information (ARP2564) and Mechanical Information (ARP2565) are provided for the applicable models, as listed on their front covers.
For other models, these two volumes are joined as a single manual.
For adjustments, Adjustment Information (ARP2566) covers all the 92' models.

Electrical Information (ARP2564)

This volume includes schematic diagrams, PCB and PCB parts lists and a description of the remote control unit.
The schematic diagrams, PCB and PCB parts lists are arranged in section by name of the PCB assembly. The parts numbers for the assemblies (PCB and CRT) used in each model are shown in 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS at the end of the Electrical Information.
For connection of the assemblies, refer to the overall wiring diagram. (In the schematic diagrams, PCB and PCB parts lists, only the assembly names and parts numbers are indicated.)
For the information on the remote control unit, refer to 7. REMOTE CONTROL UNIT after checking in the list.

Mechanical Information (ARP2565)

This volume includes exploded views, packing information and parts lists.
All other items are common among the 40", 45", 50" and 55" models.

- **50", 45" and 55" models**

Based on the exploded view and packing of the SD-P5065-K /KUX1C, the other models are described in comparison tables.
The remote control unit, PCB assembly and CRT assembly are not included in these comparison tables. Refer to 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS in Electrical Information.

- **40" models**

Exploded views and packing information are provided for the SD-P4063-K / KUX1C.

Adjustment Information (ARP2566)

This volume covers all the '92 models of the Projection Monitor Receiver.

Note

- The descriptions in Electrical Information, Mechanical Information and Adjustment Information are arranged according to the screen size or family. When no destination (KUX1C, KCX1C and S types) is specified, that size or family is intended for all destinations (types).
- For the family models, refer to 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS in Electrical Information.
  Example : SD - P5065 - K
  └→ 65 Family

'92 PROJECTION MONITOR RECEIVER ADJUSTMENT INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols -■▭- (fast operating fuse) and/or -■▭☒- (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible -■▭- (fusible de type rapide) et/ou -■▭☒- (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1. SAFETY PRECAUTIONS

NOTICE:Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.
The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled.
   Keep picture tube away from the body while handling.
2. When service is required, even though the PROJECTION MONITOR RECEIVER an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress.
   Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components.
   Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
   Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacturer has become defective, or inadvertently defeated during servicing.

Therefore, the following checks should be performed for the continued protection of the customer and service technician.

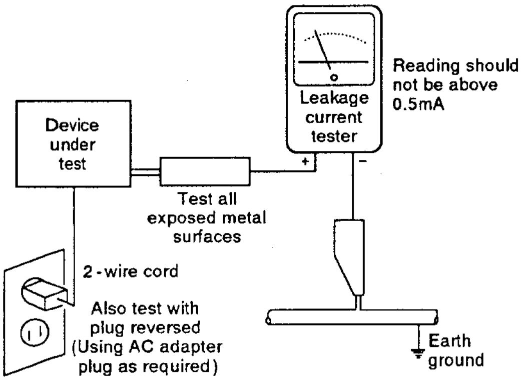
Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester(DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part(input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

'92 PROJECTION MONITOR RECEIVER ADJUSTMENT INFORMATION

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on.
Using a "Leakage Current Tester(Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet(input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground(water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.



Device under test
Leakage current tester
Reading should not be above 0.5mA
+
−
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture(video muting is being applied)when no signal is input, high voltage of this set during operation is less than 30.9kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.9kV in the status of the black picture when no signal is input.
To measure H.V. use a high impedance H.V. meter.
Connect (−) to earth and (+) to the FBT anode cable connector.
(Refer to page 18.)

X-radiation

TUBE:The primary source of X-radiation in this set is the picture tube.
For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type.
The picture tube(CRT assembly R, G, B)used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (See on page 6). Accordingly, when the current in flowing to the picture tube(CRT assembly R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube(CRT assembly R, G, B)itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assembly with the POWER SUPPLY assembly in the manner in which has been adjusted to perform normal operation.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

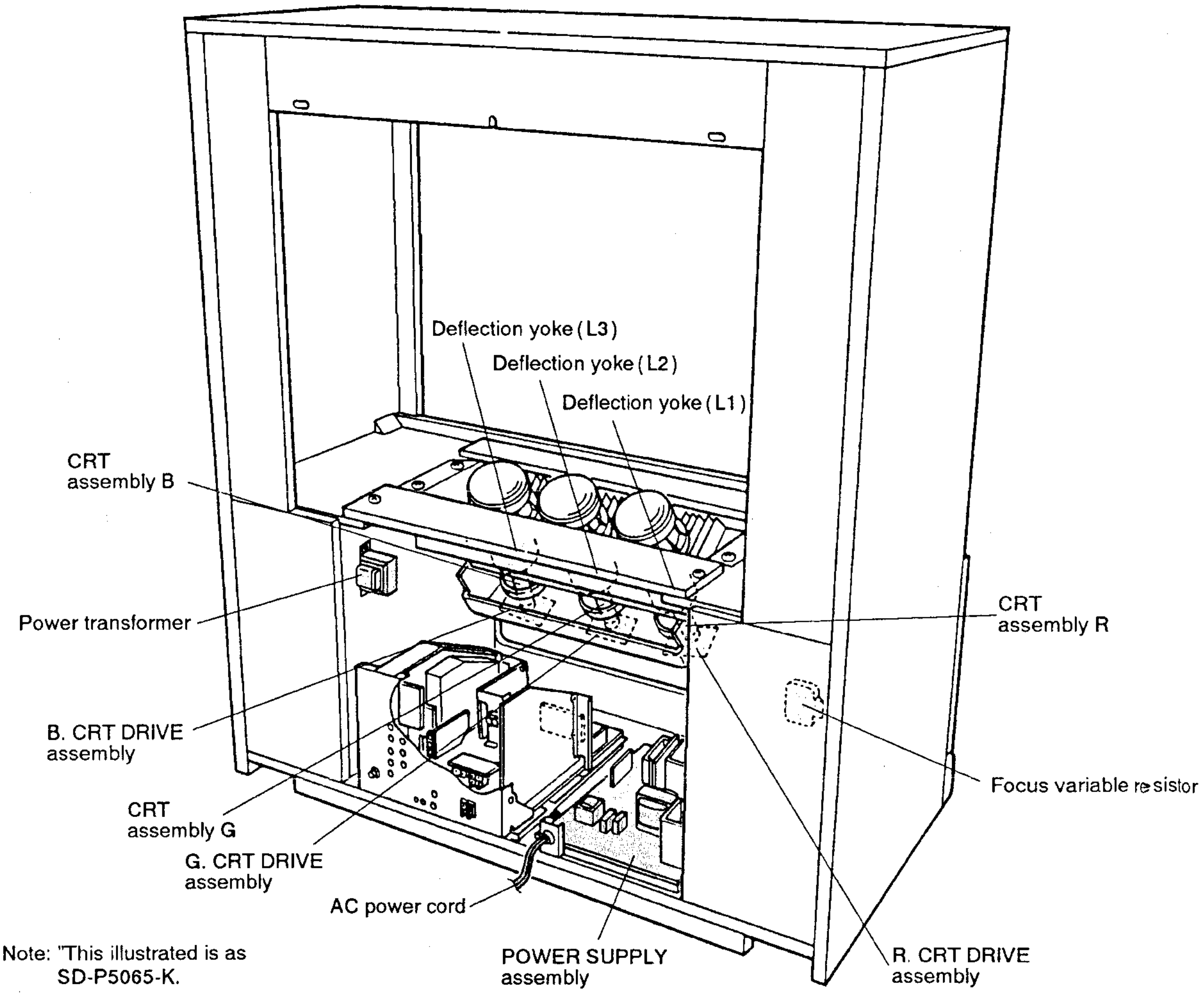
■ Charged section

The circuit in which the commercial AC power is used as it is without passing through the power supply transformer. If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. In this case, be sure to connect the set via an insulated transformer and supply the current.

■ Charged section
(Power supply primary side)

1. The primary side of the POWER SUPPLY assembly
2. AC power cord
3. Power transformer

▒ part is the charged section.
⬚ part is the high voltage generating points other than the charged section.


Deflection yoke (L3)
Deflection yoke (L2)
Deflection yoke (L1)
CRT assembly B
Power transformer
B. CRT DRIVE assembly
CRT assembly G
G. CRT DRIVE assembly
AC power cord
POWER SUPPLY assembly
R. CRT DRIVE assembly
CRT assembly R
Focus variable resistor

Note: "This illustrated is as SD-P5065-K.

Fig. 3-1 Charged section and high voltage generating point

'92 PROJECTION MONITOR RECEIVER ADJUSTMENT INFORMATION

High voltage generating point

The place where voltage of over 100V is generated.

1. Charged section	
2. POWER SUPPLY assembly (including FBT)	(30.5kV, 135V)
3. R. CRT DRIVE assembly	(10.5kV)
4. G. CRT DRIVE assembly	(10.5kV)
5. B. CRT DRIVE assembly	(10.5kV)
6. CRT assembly R	(30.5kV)
7. CRT assembly G	(30.5kV)
8. CRT assembly B	(30.5kV)
9. Focus variable resistor (VR1)	(10.5kV)
10. Deflection yokes (L1, L2, and L3)	(Approx. 1100V at peak)

X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT assembly R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows :When the current flows to the CRT assembly R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT assembly R, G, B. Accordingly, never supply current only to the CRT assembly R, G, B.
  Moreover, the anode voltage of the CRT assembly R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is higher than 30.9kV). Be sure to drive the CRT assembly R, G, B by using a completely functional POWER SUPPLY assembly and V-AMP assembly which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT assembly R, G, B(Do not dismantle CRT assemblies under any circumstances).
2. Each Lens assemblies

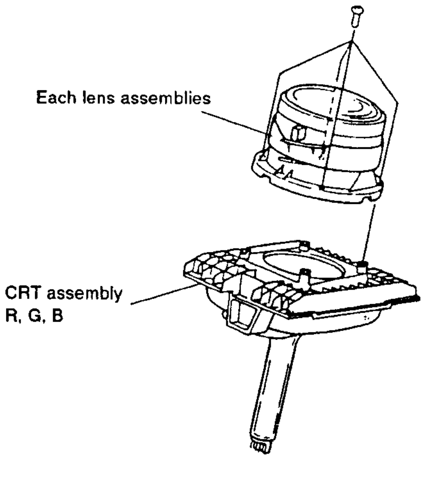


Fig. 3-2 Component parts for X-ray protection

Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S.numbers 3,632,886, 3,746,792 and 3,959,590; Canadian numbers 1,004,603 and 1,037,877. " Dolby " and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

4. ADJUSTMENT

- Adjustment items are described as follows.

4.1 FACTORY ADJ MODE
4.2 WHEN POWER SUPPLY ASSEMBLIY IS REPAIRED
4.3 WHEN POWER SUPPLY ASSEMBLIY IS REPLACED
4.4 WHEN TUNER-VIDEO ASSEMBLY IS REPAIRED OR REPLACED
(Convergence, Video, Control and Tuner sections)
4.5 WHEN CONVERGENCE ASSEMBLY IS REPAIRED OR REPLACED
4.6 WHEN AV I/O-PINP-Y/C SEP ASSEMBLY IS REPAIRED OR REPLACED
4.7 WHEN RECEIVER ASSEMBLY IS REPAIRED
4.8 WHEN RECEIVER ASSEMBLY IS REPLACED
4.9 WHEN R, G OR B CRT DRIVE ASSEMBLY IS REPAIRED OR REPLACED
4.10 WHEN DOL. PRO. MOD. IS REPAIRED
4.11 WHEN DOL. PRO. MOD. IS REPLACED
4.12 WHEN CRT ASSEMBLY R, G OR B IS REPLACED
4.13 WHEN LENS ASSEMBLY IS REPLACED
4.14 WHEN OTHER ASSEMBLIES ARE REPAIRED OR REPLACED
4.15 DPO BASE SETTING
4.16 DPO SENSITIVITY ADJUSTMENT
4.17 ANODE VOLTAGE MEASURING METHOD
4.18 ON FOCUS ADJUSTMENT WITH THE LENS ASSEMBLY

- These adjustment procedures are described separately for adjustments following assembly exchange and adjustments following repairs.

- When replacing the assemblies, always use perfect-moving replacements.

- Symbols in parentheses next to the adjustment position ( ) indicate denotes the relevant assembly to be adjusted.
  S : POWER SUPPLY assembly
  VR1 : Focus variable resistor
  V : TUNER-VIDEO assembly
  A : AV I/O-PINP-Y/C SEP assembly
  D : DOL. PRO. MOD.

- The adjustment points and TP terminals on the each assemblies are shown in Fig. 4-7 thru 4-10.
  Fig. 4-7:
  W FRONT CONTROL assembly, RECEIVER assembly, FRONT CONTROL assembly and focus variable resistor.
  Fig. 4-8:
  TUNER-VIDEO assembly,
  AV I/O-PINP-Y/C SEP assembly, POWER SUPPLY assembly and DOL. PRO. MOD..
  Fig. 4-9:
  R, G, B CRT DRIVE assemblies and deflection yoke.
  Fig. 4-10:
  Lens assembly (Red, Green, Blue).

- Set the input terminals at the rear panel as follows unless otherwise noted.
  VIDEO signal : INPUT LD VIDEO terminal
  AUDIO signal : INPUT LD AUDIO terminal

- Set the picture quality to standard by remote control unit unless otherwise noted.

- In this adjustment description, the applicable models are mentioned by respective family or screen size (in inches). For the model names classified by family and size, refer to the table on the front cover.
  If not otherwise mentioned, any model of the same family or size is of the same destination (type).

4.1 FACTORY ADJ MODE

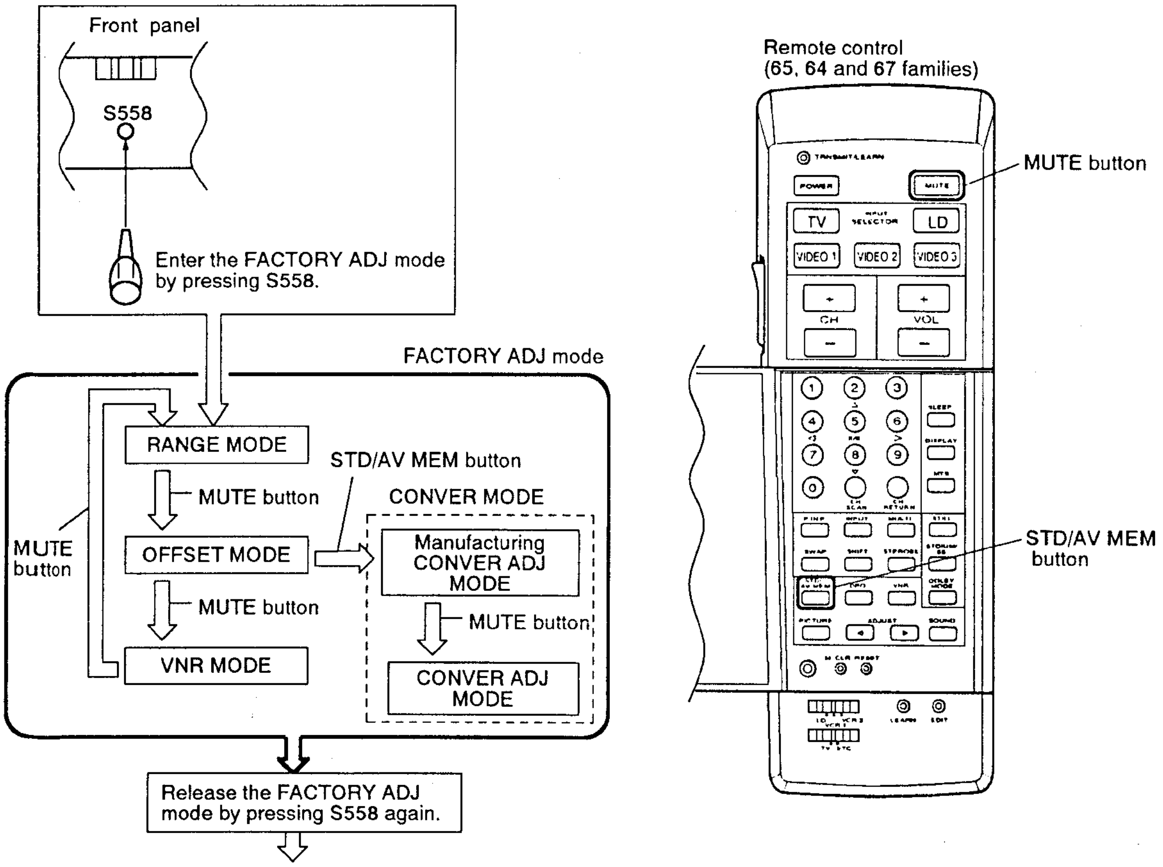
4.1.1 FACTORY ADJ Mode

FACTORY ADJ mode is provided to adjust the picture and sound-quality control functions of this model and to confirm the variable ranges of these functions. FACTORY ADJ mode is activated and deactivated by pressing S558 through a small hole in the center of the front panel using a thin rod. Any operation in FACTORY ADJ mode is executed using the remote control.

4.1.2 Hierarchy of FACTORY ADJ Mode

Fig. 4-1 shows the hierarchy of FACTORY ADJ mode.
By pressing S558 through a small hole in the center of the front panel, FACTORY ADJ mode is activated. This mode contains RANGE, OFFSET, VNR and CONVER modes.
RANGE, OFFSET and VNR modes are cyclically switched each time you push the MUTE button of the remote control. To enter CONVER mode, press the STD/AV MEM button in OFFSET mode. When CONVER mode is initiated, the unit enters manufacturing CONVER ADJ mode. Press the MUTE button to activate CONVER ADJ mode which enables actual adjustments.
To release FACTORY ADJ mode, press S558 again.

Note: With the following models, FACTORY ADJ mode may not function properly if you activate it immediately after deactivating it. In this case, reactivate FACTORY ADJ mode after turning off power of the main unit and turning it on again.
- 65, 64, 67 and PRO families and SD-P5006.


Front panel
S558
Enter the FACTORY ADJ mode by pressing S558.
FACTORY ADJ mode
RANGE MODE
MUTE button
STD/AV MEM button
CONVER MODE
MUTE button
OFFSET MODE
Manufacturing CONVER ADJ MODE
MUTE button
MUTE button
VNR MODE
CONVER ADJ MODE
Release the FACTORY ADJ mode by pressing S558 again.
Remote control
(65, 64 and 67 families)
MUTE button
STD/AV MEM button
TV
LD
VIDEO 1
VIDEO 2
VIDEO 3
CH
VOL

To reactivate FACTORY ADJ mode with the 65, 64, 67 and PRO families and SD-P5006, turn off power and turn it on again in advance.

Fig. 4-1 Hierarchy of FACTORY ADJ Mode

4.1.3 RANGE Mode

In RANGE mode, the three points, center (CNT), minimum (MIN) and maximum (MAX), in the service variable ranges of the picture and sound-quality control functions can be easily confirmed. By using this mode, it is not necessary to use the ADJUST buttons to see the end levels of the ranges.

Even when a CNT-to-MIN operation is performed in this mode, the user convergence returns to the user-set position and the picture quality returns to the user STD setting when FACTORY ADJ mode is released.

Fig. 4-2 shows the hierarchy of RANGE mode. As shown in the figure, the first time you press one of the numeric button of the remote control, the control item indicated for that button is selected. Each subsequent pressing of the same key cyclically sets the item to CNT, MIN and MAX. The control items can also be cyclically selected by pressing the PICTURE button.

For picture quality, the center, maximum and minimum points of the variable range can be confirmed. The other items change as follows.

- Convergence······ The H- and V-STATIC data change as follows. Do not hold MIN or MAX status for an extended period. The convergence assembly may be damaged.
  CNT : 0, MIN : − 128, MAX : 127
- Balance······ CNT : Center, MIN : L ch only,
  MAX : R ch only
- Mute········ CNT : Mute OFF, MIN : Mute ON,
  MAX : Mute OFF
- VOL 20······No change for CNT, MIN and MAX. The VOL 20 setting is maintained.
- VOL 30······No change for CNT, MIN and MAX. The VOL 30 setting is maintained.
- VOL 40······No change for CNT, MIN and MAX. The VOL 40 setting is maintained.

Note: Use a picture or tone whose changes can be easily recognized. Be careful when checking VOL 40 with a high-level sound input.

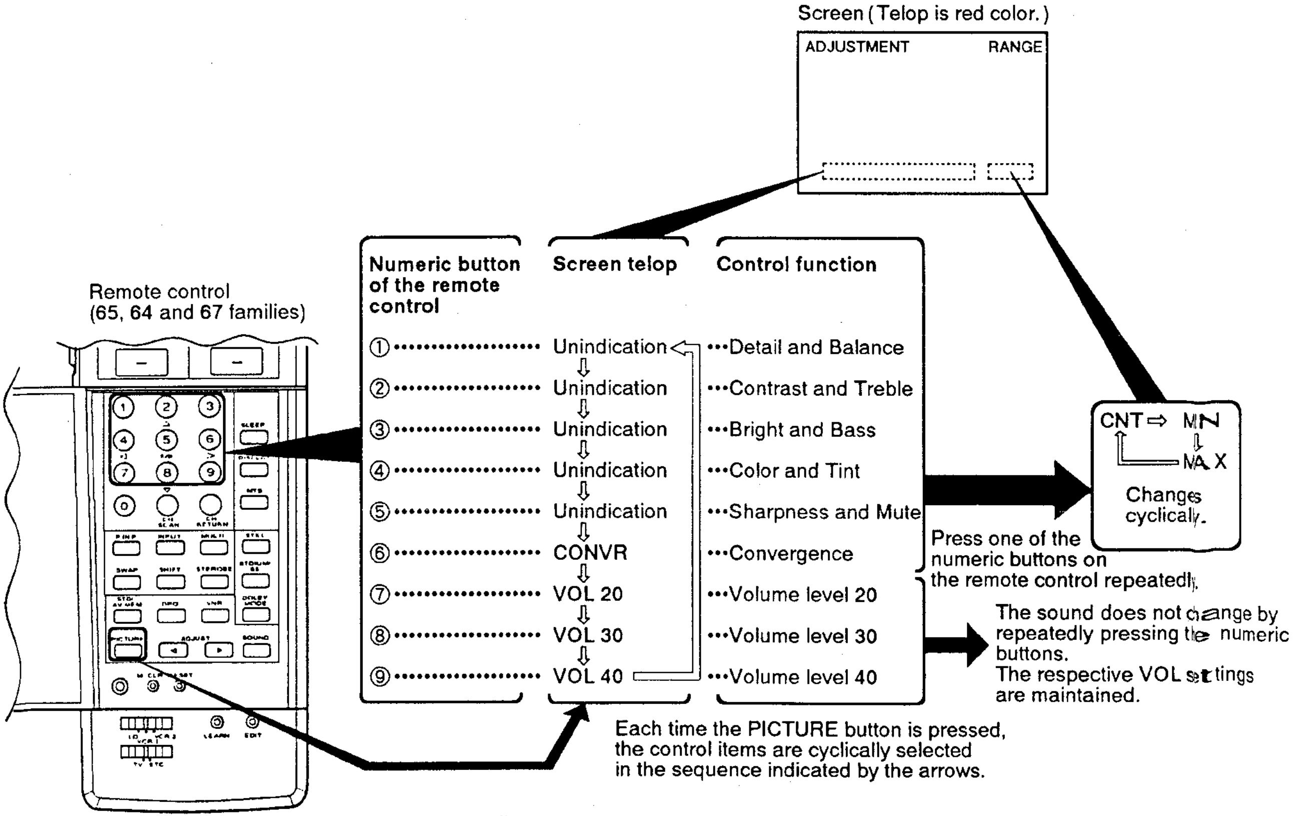

Screen (Telop is red color.)
ADJUSTMENT
RANGE
Remote control
(65, 64 and 67 families)
Numeric button of the remote control
Screen telop
Control function
①··················· Unindication ···Detail and Balance
②··················· Unindication ···Contrast and Treble
③··················· Unindication ···Bright and Bass
④··················· Unindication ···Color and Tint
⑤··················· Unindication ···Sharpness and Mute
⑥··················· CONVR ···Convergence
⑦··················· VOL 20 ···Volume level 20
⑧··················· VOL 30 ···Volume level 30
⑨··················· VOL 40 ···Volume level 40
CNT ⇨ MIN
MAX
Changes cyclically.
Press one of the numeric buttons on the remote control repeatedly.
The sound does not change by repeatedly pressing the numeric buttons.
The respective VOL settings are maintained.
Each time the PICTURE button is pressed, the control items are cyclically selected in the sequence indicated by the arrows.

Fig. 4-2 Hierarchy of RANGE mode

4.1.4 OFFSET Mode
(PIONNER Standard Setting Mode)

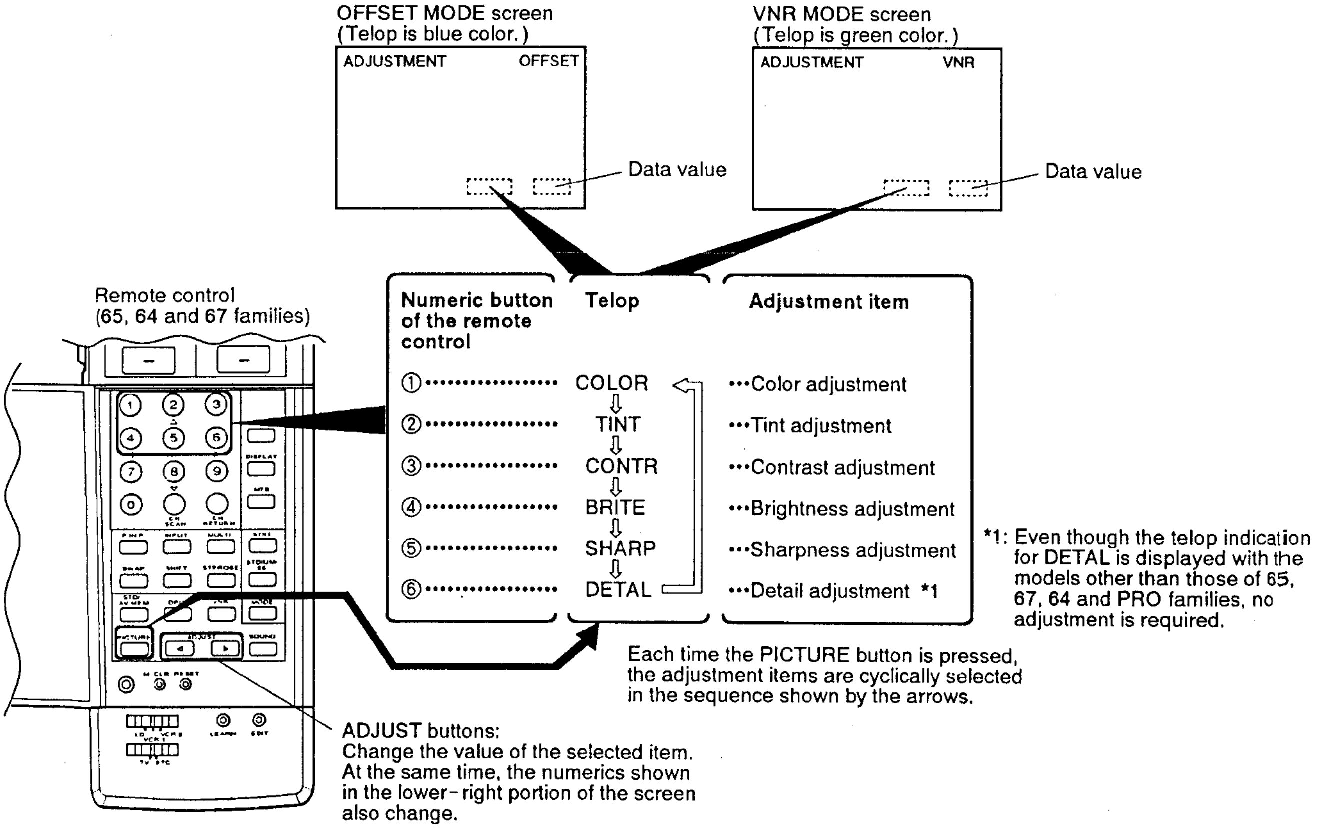
In OFFSET mode, the picture quality, meaning PIONEER standard (STD) picture to be obtained when the STD/AV MEM button on the remote control unit is pressed, can be stored in a nonvolatile memory (IC452).
Fig 4 - 3 shows the hierarchy of OFFSET mode. The adjustment items are selected using the numeric buttons or the PICTURE button on the remote control and the selected item is adjusted using the ADJUST buttons. When the value of the selected item is changed, the numerics displayed in the lower-right portion of the screen also change accordingly, which will be stored in the nonvolatile memory.
Make the adjustments as described herein.

4.1.5 VNR Mode (VNR Setting Mode)

In VNR mode, the picture quality obtained in VNR ON status can be stored in a nonvolatile memory (IC452) in the TUNER - VIDEO assembly. The hierarchy of VNR mode is the same as that of OFFSET mode (see Fig. 4 - 3). Make the adjustments as described herein.
Note: VNR mode is applicable only to models which use one of the 65, 67, 64 and PRO families and SD - P5006.

4.1.6 CONVER Mode

See 5. CONVERGENCE ADJUSTMENT.



Numeric button of the remote control	Telop	Adjustment item
①………………	COLOR	…Color adjustment
②………………	TINT	…Tint adjustment
③………………	CONTR	…Contrast adjustment
④………………	BRITE	…Brightness adjustment
⑤………………	SHARP	…Sharpness adjustment
⑥………………	DETAL	…Detail adjustment *1

*1: Even though the telop indication for DETAL is displayed with the models other than those of 65, 67, 64 and PRO families, no adjustment is required.

Each time the PICTURE button is pressed, the adjustment items are cyclically selected in the sequence shown by the arrows.

ADJUST buttons:
Change the value of the selected item.
At the same time, the numerics shown in the lower-right portion of the screen also change.

Fig. 4-3 OFFSET mode and VNR mode

4.2 WHEN POWER SUPPLY ASSEMBLY IS REPAIRED

Note: VR151 and VR152 are protected by the shield covers so that they can not be adjusted. Do not try to turn these volumes by removing their shield cover. (Otherwise, the sensitivity of the protection circuit against the X-ray and the anode voltage will be affected.)

- Adjustment test points are located in the POWER SUPPLY assembly.

4.2.1 Power supply section

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	135V power supply adjustment	Black burst signal	VR101(S)	Adjust the voltage of both sides of C136 to 135V ± 1V.

● Each output voltages check

After performed +135V adjustment, confirm the each voltages as follows.

Measuring Point	Voltage	Measuring Point	Voltage
Connector E6 +12V STB for P GND	+12V ± 4V	Connector E6 +9V for GND	+10V ± 3V
Connector E6 +25V for GND	+25V ± 5V	Connector E6 +35V for A GND	+35V ± 5V (within +45V) *1
Connector E6 −25V for GND	−25V ± 5V	Connector E5 H.T.+ for H.T. −	+6.25V ± 0.25V
Connector E7 +13.5V for GND	+13.5V ± 0.5V		

*1 : +25V ± 3V for AWV1290.

4.2.2 Deflection section

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Convergence confirmation	Cross hatch signal	——	Confirm the convergence. If the convergence is shifted, adjust as described in section 5. CONVERGENCE ADJUSTMENT.
2	Focus adjustment		Focus VR (VR)	Optimize the focus of each CRT assembly. It is recommend for easier adjustment to shift the color to be adjusted by the user-convergence control.
3	Horizontal size adjustment	Monoscope signal	VR154(S)	Adjust the screen size for the following values. When adjusting with ordinary broadcasting, adjust so that the screen does not blacken. •Horizontal Right: 94.5 ± 1%, Left: 93.5 ± 1% •Vertical Upper: 90.0 ± 1%, Lower: 91.0 ± 1%
4	Vertical size adjustment		VR181(S)	
5	White balance confirmation	Free signal	——	Confirm the white balance. If the best picture is not obtained, adjust as described in section 4.4.2.

4.3 WHEN POWER SUPPLY ASSEMBLY IS REPLACED

Note: VR151 and VR152 are protected by the shield covers so that they can not be adjusted. Do not try to turn these volumes by removing their shield cover. (Otherwise, the sensitivity of the protection circuit against the X-ray and the anode voltage will be affected.)

4.3.1 Power supply section

- No adjustment required.

4.3.2 Deflection section

- Perform this adjustment as described in section 4.2.2.

4.4 WHEN TUNER-VIDEO ASSEMBLY IS REPAIRED OR REPLACED

*a: The adjustment items with this indication are stored in IC452 (nonvolatile memory). When replacing the TUNER - VIDEO assembly, perform the following operations.

① Remove IC452 from both the old and new TUNER - VIDEO assemblies.
② Attach IC452 which was removed from the old TUNER - VIDEO assembly to the new TUNER - VIDEO assembly.
③ Fine-adjust the items marked with *a, referring to the tables.
④ Confirm the user settings.

Note: IC452 is quite sensitive to static electricity.
Be careful when handling the IC.

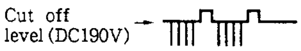
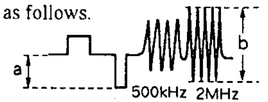
If data in IC452 have been erased, set the adjustment items marked with marked *a according to the descriptions in the tables and perform the user settings.

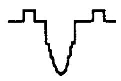
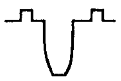
4.4.1 Convergence Section

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Convergence adjustment *a	Cross hatch signal	Remote control	Adjust the red and blue convergence as described in section 5. CONVERGENCE ADJUSTMENT.

4.4.2 Video Section

- For the FACTORY ADJ mode, refer to the section 4.1.
- Perform this adjustment after the section 4.4.1.

<table>
<tr><th>Step No.</th><th colspan="2">Adjustment Item</th><th>Input Signal</th><th>Adjustment Point</th><th>Adjustment Procedure</th></tr>
<tr><td rowspan="2">1</td><td colspan="2" rowspan="2">White balance adjustment</td><td rowspan="2">Color bar signal without color signal</td><td rowspan="2">Screen VR (R),(B) (VR1)
VR252(R)} Drive
VR251(B)} VR (V)</td><td>Adjust the screen VRs (R) and (B) until grey color can just be seen in the color of dark area. (Do not move the green VR at this stage.)</td></tr>
<tr><td>Using the drive VR, adjust the color of bright area to white.</td></tr>
<tr><td>2</td><td rowspan="5">ADJUST-MENT OFFSET mode
(PIONEER Standard setting)
*1
*a</td><td colspan="4">Set to the OFFSET mode (PIONEER standard setting mode) of FACTORY ADJ mode.
(After adjustment is complete, release the normal condition.)</td></tr>
<tr><td>3</td><td rowspan="2">Brightness adjustment</td><td rowspan="2">Cross hatch signal</td><td>COLOR</td><td>Minimize Color by remote control.</td></tr>
<tr><td>4</td><td>BRITE</td><td>Adjust the cut off level at TP-GK of G. CRT DRIVE assembly to DC190V. (After adjustment, confirm the white balance.)

(After this adjustment, adjust color as described in step No. 3).</td></tr>
<tr><td>5</td><td>Detail adjustment</td><td rowspan="2">Multi burst</td><td>DETAL</td><td>Adjust the data value on the right-lower position of the screen as follows.
<table><tr><th>Family</th><th>Data Value</th><th>Family</th><th>Data Value</th></tr><tr><td>65, 67 and PRO</td><td>– 50</td><td>62</td><td>——</td></tr><tr><td>64 and SD-P5006</td><td>– 45</td><td>45" of 61</td><td>——</td></tr><tr><td>63 and SD-P4006</td><td>——</td><td>40" of 61</td><td>——</td></tr></table></td></tr>
<tr><td>6</td><td>Sharpness adjustment</td><td>SHARP</td><td>At TP-13, adjust the rate of a and b as follows.

<table><tr><th>TUNER-VIDEO Assembly</th><th>20log10 b/a</th><th>TUNER-VIDEO Assembly</th><th>20log10 b/a</th></tr><tr><td>65, 67 and PRO</td><td rowspan="2">5.5dB ± 2.3dB</td><td>62</td><td rowspan="3">2.5dB ± 2.3dB</td></tr><tr><td>64 and SD-P5006</td><td>45" of 61</td></tr><tr><td>63 and SD-P4006</td><td>2.5dB ± 2.3dB</td><td>40" of 61</td></tr></table></td></tr>
</table>

Step No.	Adjustment Item		Input Signal	Adjustment Point	Adjustment Procedure
7	ADJUST-MENT OFFSET mode (PIONEER Standard setting) *1 *a	Color adjustment	Color bar	COLOR	Adjust screen to optimum condition.
8		Tint adjustment		TINT	Adjust screen to optimum condition.
9		Contrast adjustment	Free signal	CONTR	Adjust screen to optimum condition.
10				—	At the TP-BK of B. CRT DRIVE assembly, confirm that the signal is shaped as shown below.  Shapely waveform  Shapeless waveform
11	Confirm the white balance and picture quality.				
12	VNR setting *a *3		Set to the VNR mode of FACTORY ADJ mode. (After adjustment is complete, release the normal condition.)		
			Set the data value of telop for each adjustment items as table. *2		Item | Telop | Item | Telop COLOR | − 10 | BRITE | 0 TINT | 0 | SHARP | − 20 CONTR | 0 | DETAL | − 50
13	Blue tailing adjustment		Cross signal	—	Adjust the SG output of the input cross signal to maximum level.
					Maximize contrast by remote control.
				VR253 (V)	Turn VR253 fully counterclockwise (resulting in blue tailing.).
					Turn the VR clockwise until there is no blue tailing at the vertical cross line on the screen.

*1: After this adjustment, confirm the TINT of the PINP sub picture. (TINT ought to be not shifted.) If it's shifted, adjust the TINT of the sub picture as described in 4.6.
*2: These values are set at the factory and can be changed at the request of the user.
*3: This adjustment is applicable only to models which are 65, 67, 64 and PRO families and SD-P5006.

4.4.3 Control Section

- Perform this adjustment after the sections 4.4.1 and 4.4.2.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	User convergence confirmation *a	Free signal	—	Generate test cross signal, and confirm the user convergence. If there is any deviation, adjust according to the operating instructions.
2	Telop position adjustment		TC401(V)	Adjust the test cross to the center position.
3	Repeat steps 1 and 2 to obtained best position.			
4	DPO BASE setting *a	—	—	Perform DPO BASE setting as described in section 4.15.

4.4.4 Tuner Section

- No adjustment required when replacing the assembly.
- Perform the adjustment after the video and control section adjustments.
- Connection diagram is refered to Fig. 4-4.
- Adjustment points and test points are shown in Fig. 4-8.
- Perform the adjustment set to the TEST mode (Note 1).
- Perform the adjustment by using the channel 9 unless otherwise noted.
- Video and audio input signals are described in the below.

  Ⓝ ; No signal
  Video signal
  V①; fv=EIA color bar, 60dBμV
  Audio signal (STEREO);
  dbx noise reduction ON, PRE-EMPHASIS ON
  S①; f_A=300Hz, 30% MOD,
  L ch (or R ch) only, 54dBμV
  S②; f_A=5kHz, 30% MOD,
  L ch (or R ch) only, 54dBμV

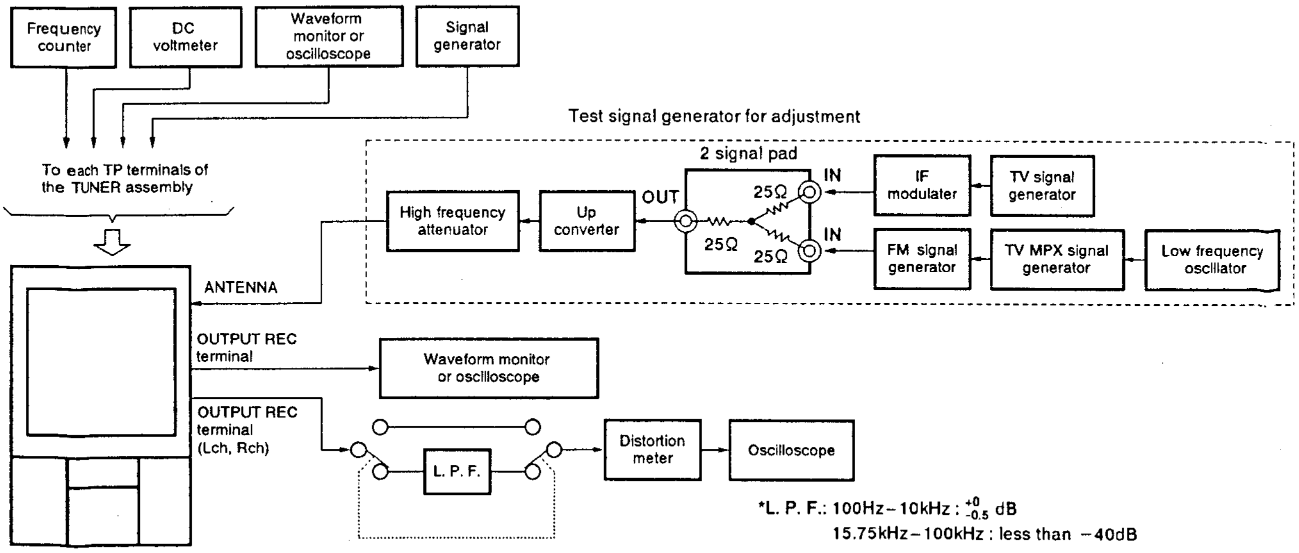
Note 1;

How to set the TEST mode.
- Short-circuit TP-TEST and GND in the TUNER-VIDEO assembly.
- Disconnect the AC power cord from the AC outlet, then connect it again.

How to release the TEST mode.
- Release the short-circuit TP-TEST and GND in the TUNER-VIDEO assembly.
- Disconnect the AC power cord from the AC outlet, then connect it again.

Audio System

Step No.	Adjustment Item	Input Signal		Adjustment Point	Adjustment Procedure
		Video	Audio		
1	dbx filter adjustment	Ⓝ	Ⓝ	VR354 (V)	Input the signal of 22.9kHz/245mV to TP-COMP, and adjust TP-FILTER ADJ output to minimum.
2	VCO adjustment	Ⓝ	Ⓝ	——	Measure the DC voltage of TP-MPX. VCO with no input signal.
3		Ⓝ	Ⓝ	VR353 (V)	Input the signal of 15.734kHz/48mV to TP-COMP, and adjust the DC voltage of TP-MPX. VCO to the voltage measured in step 2.
4	Separation adjustment	V①	S①	VR351 (V)	Adjust the output of the OUTPUT REC terminal on the rear panel to minimum level. (Adjust the R ch level becomes minimum at the Lch input and the L ch level becomes minimum at the R ch input.)
5			S②	VR352 (V)	
6	Repeat steps 4 and 5 to obtained best separation.				


Frequency counter
DC voltmeter
Waveform monitor or oscilloscope
Signal generator
To each TP terminals of the TUNER assembly
Test signal generator for adjustment
2 signal pad
High frequency attenuator
Up converter
OUT
IN
IN
25Ω
25Ω
25Ω
IF modulater
TV signal generator
FM signal generator
TV MPX signal generator
Low frequency oscillator
ANTENNA
OUTPUT REC terminal
Waveform monitor or oscilloscope
OUTPUT REC terminal (Lch, Rch)
L. P. F.
Distortion meter
Oscilloscope
PROJECTION MONITOR RECEIVER

*L. P. F.: 100Hz-10kHz : $^{+0}_{-0.5}$ dB
15.75kHz-100kHz : less than −40dB

Fig. 4-4 Connection diagram when adjusting the tuner section

4.5 WHEN CONVERGENCE ASSEMBLY IS REPAIRED OR REPLACED

- Red and blue lines may deviate only slightly while green lines may deviate greatly.
- Adjust as described in section 5. CONVERGENCE ADJUSTMENT.

4.6 WHEN AV I/O-PINP-Y/C SEP ASSEMBLY IS REPAIRED OR REPLACED

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	TINT adjustment of Sub-picture	Color bar (Main and Sub-picture)	VR701 (A)	TINT of the Sub-picture ought not to shift. If it is shifted, adjust as follows. Set to P in P picture on the screen, and adjust the TINT of the Sub-picture so that it becomes the same as that of the Main-picture.

4.7 WHEN RECEIVER (＊1) ASSEMBLY IS REPAIRED

*1: It corresponds to the FRONT CONTROL assembly in the 67 and PRO family models and all the 40" models. For the 61 family models other than 40" models and the 62 family models, this adjustment is not required.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	DPO sensitivity adjustment	Adjust DPO sensitivity adjustment as described in section 4.16.		

4.8 WHEN RECEIVER (＊1) ASSEMBLY IS REPLACED

*1: It corresponds to the FRONT CONTROL assembly in the 67 and PRO family models and all the 40" models. For the 61 family models other than 40" models and the 62 family models, this adjustment is not required.

- No adjustment required.

4.9 WHEN R, G, OR B CRT DRIVE ASSEMBLY IS REPAIRED OR REPLACED

- White balance ought to be obtained best picture. If not, adjust the white balance as follows.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	White balance adjustment	Ordinary broadcasting	Screen (VR1) (R) (B)	Adjust the white if proper adjustment cannot be achived as follows. Set the COLOR by the remote control to minimum, adjust the screen VRs to obtain best picture.

4.10 WHEN DOL. PRO. MOD. IS REPAIRED (65, 67 and 64 families only)

- Set the model as described in the below.
  Dolby mode: PRO LOGIC (Dolby Pro Logic Surround)
  PRO LOGIC adjustment mode: STANDARD

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Dolby level adjustment	L ch: 1kHz R ch: 1kHz of reverse phase with L ch.	——	Set the function to LD and input the following signal to L and R ch input terminals. At this time, set the input signal at connector F1 pin15 (SIN) to 300mVrms.
2			VR1901 (D)	Adjust the level of connector F1 pin 1 (DELAY OUT) to 283.2mV ± 1.0dB.

4.11 WHEN DOL. PRO. MOD. IS REPLACED (65, 67 and 64 families only)

- No adjustment required.

4.12 WHEN CRT ASSEMBLY R, G, OR B IS REPLACED

- For replacing the CRT assembly, refer to the Mechanical information (ARP2565).
- When one or two tubes are replaced, match the new tubes with the remaining tube. If all three tubes are replaced, first adjust G, and then match the other two tubes with the G tube.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Deflection yoke angle and centering adjustment	Cross signal (or generate a test cross signal for user convergence adjustment.)	Centering magnet of deflection yoke of replaced CRT assembly (Refer to Fig. 4-9.)	Adjust the deflection yoke angle until the color cross of the replaced CRT assembly is parallel with the color cross of a CRT assembly which has not been replaced.
				Reset the convergence STATIC (Set the H- and V-STATIC values to 0 in CONVER ADJ mode of FACTORY ADJ mode.) when the replaced CRT assembly is red or blue.
				Adjust the centering magnet of the deflection yoke in the replaced CRT assembly until cross becomes converge.
2	Focus adjustment	Cross hatch	Replaced color focus VR (VR1) and lens assembly connected to replaced CRT assembly (Refer to 4.18 ON FOCUS ADJUSTMENT WITH THE LENS ASSEMBLY.)	Adjust the focus of the replaced CRT assembly to optimum condition. (Shifting the convergence position may provide easier observation. Be sure to return it to the original position after the adjustment is completed.)
3	Convergence adjustment		Match the color convergence of the replaced CRT assembly with the color of an assembly which has not been replaced. See Section 5. CONVERGENCE ADJUSTMENT for details on the matching procedure. (When CRT assembly G is replaced, match the color convergence of the R, G and B.)	
4	White balance	Color bar signal without color signal	Screen VR(VR1) VR252 (R) / VR251 (B) } Drive VR(V)	Set the picture quality to standard by remote control.
				Adjust the replaced color screen VR until grey can be seen in the color of dark area.
				Adjust the replaced color drive VR until the color of bright area becomes white. [When CRT assembly G is replaced, slightly adjust the drive VR (R) and (B).]
				Adjust the PIONEER Standard Brightness only when the above adjustments have not been successfully effectuated due to the abnormal brightness.
5	PIONEER standard settings	Adjust as described in steps 2 thru 10 in Section 4.4.2. Also make the VNR settings according to 4.4.2 when required.		

4.13 WHEN LENS ASSEMBLY IS REPLACED

- Remove the lenticular sheet, and attach tracing paper with a plastic tape, etc. instead. (Refer to 4.18 ON FOCUS ADJUSTMENT WITH THE LENS ASSEMBLY.) Adjust the focus of the lens assembly newly mounted, by observing the picture shown on the tracing paper.

4.14 WHEN OTHER ASSEMBLIES ARE REPAIRED OR REPLACED

- No adjustment required.

4.15 DPO BASE SETTING

Note: Models of the 61 family other than 40" models and of the 62 family are not equipped with the DPO function.

The DPO function features a DPO light-sensitive section in the front control panel designed to judge the level of external light when the DPO button of the remote control in ON, thereby matching the PROJECTION MONITOR RECEIVER picture quality (contrast, color, bright) with the external light.

There are two STANDARD kinds of DPO picture qualities. When the environment is bright, the first DPO quality(DPO LIGHT) is selected. When the environment is dark, the second DPO quality(DPO DARK) is selected. The data on these two DPO qualities are stored in IC452 (non-volatile memory).

Hence, if IC452(or peripheral circuits) is repaired or replaced, or if TUNER-VIDEO assembly is replaced, picture quality must be stored in IC452 again.

To store the DPO picture quality data, refer to the operating instructions. The values set at the factory are shown here for reference. These values are subject to change.

- DPO LIGHT
  COLOR : 0
  CONTR : 0
  BRITE : 0
- DPO DARK
  COLOR : −2
  CONTR : −20
  BRITE : +4

Note: For this adjustment, it is not necessary to activate FACTORY ADJ mode.

4.16 DPO SENSITIVITY ADJUSTMENT

Note : Models of the 61 family other than 40" models and of the 62 family are not equipped with the DPO function.

The sensitivity of the DPO light-sensitive section is adjusted to determine the level of external light at which the DPO feature is activated. This adjustment is made by VR551 in the RECEIVER assembly(*1) (refer to Fig. 4-7), and should be carried out according to the customer's preferences. The adjustment procedure used at the factory is given for reference.

*1 : It corresponds to the FRONT CONTROL assembly in the 67 and PRO family models and all the 40" models.

(1) Using an incandescent light bulb as the light source, light is beamed directly into the DPO light sensitive section with a light-intensity level of 50 lux at the DPO.
(2) Turn the DPO switch of the remote control to ON.
(3) RECEIVER assembly VR551 is adjusted to obtain a voltage of 4.6V(± 0.3V) at the Q551 emitter.

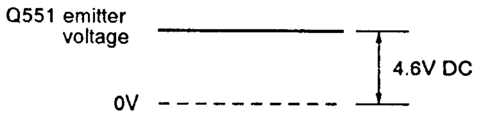


Fig. 4-5 DPO sensitivity adjustment

4.17 ANODE VOLTAGE MEASURING METHOD

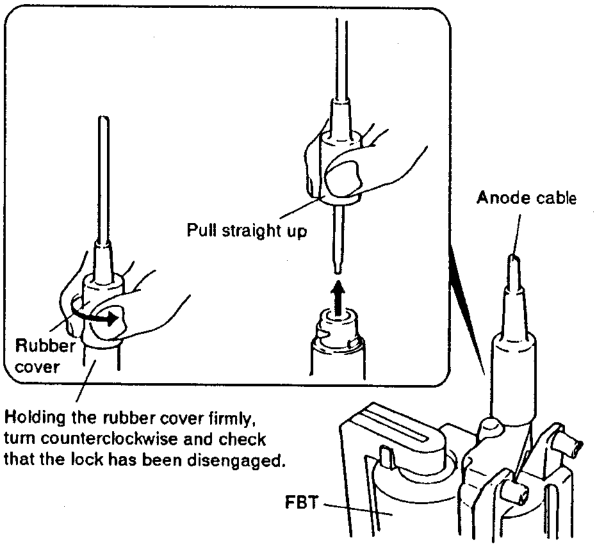
Disconnect the FBT anode cable as outlined in Fig. 4-6. Measure at the point where the cable enters the FBT.

Caution: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, POWER SUPPLY assembly).

SERVICEMAN WARNING

Before removing the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minute.

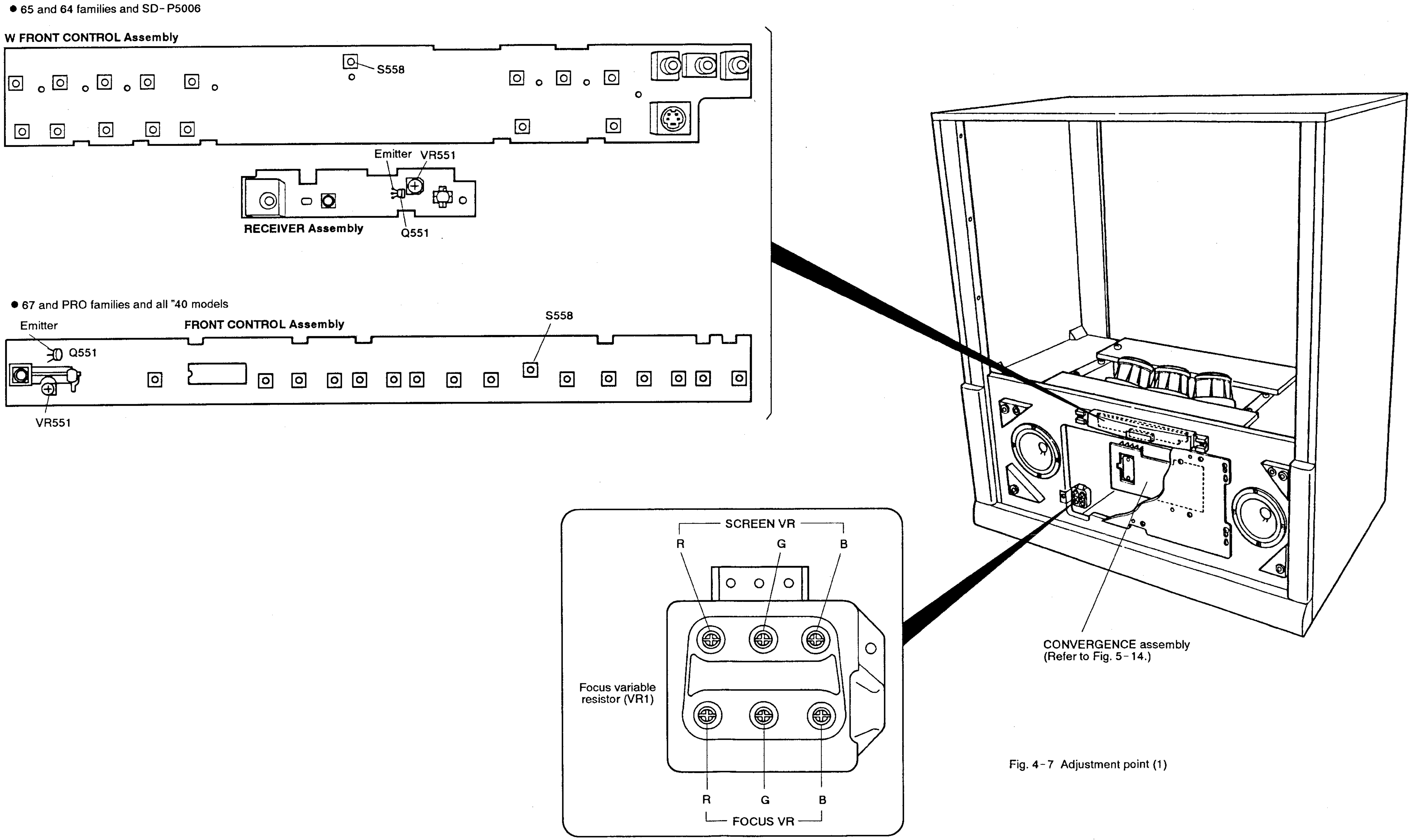
Note:Determine the extent of the rubber cover before disconnecting the cable.



Holding the rubber cover firmly, turn counterclockwise and check that the lock has been disengaged.

Note :When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

Fig. 4-6 Disconnecting the anode cable



- 65 and 64 families and SD-P5006
- 67 and PRO families and all "40 models

W FRONT CONTROL Assembly
S558
Emitter
VR551
RECEIVER Assembly
Q551
Emitter
FRONT CONTROL Assembly
S558
Q551
VR551
SCREEN VR
R
G
B
Focus variable resistor (VR1)
R
G
B
FOCUS VR
CONVERGENCE assembly (Refer to Fig. 5-14.)

Fig. 4-7 Adjustment point (1)

'92 PROJECTION MONITOR RECEIVER ADJUSTMENT INFORMATION

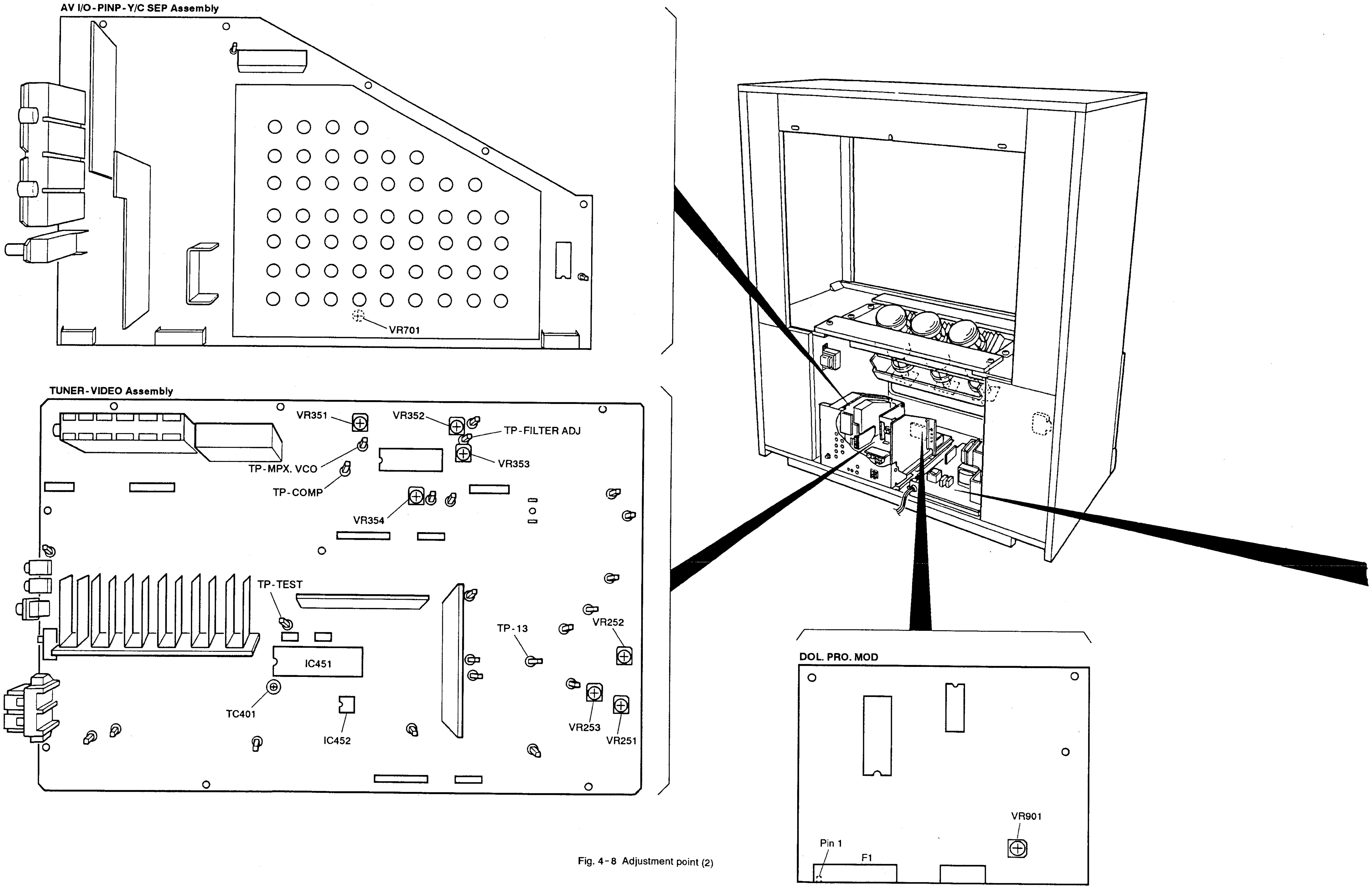
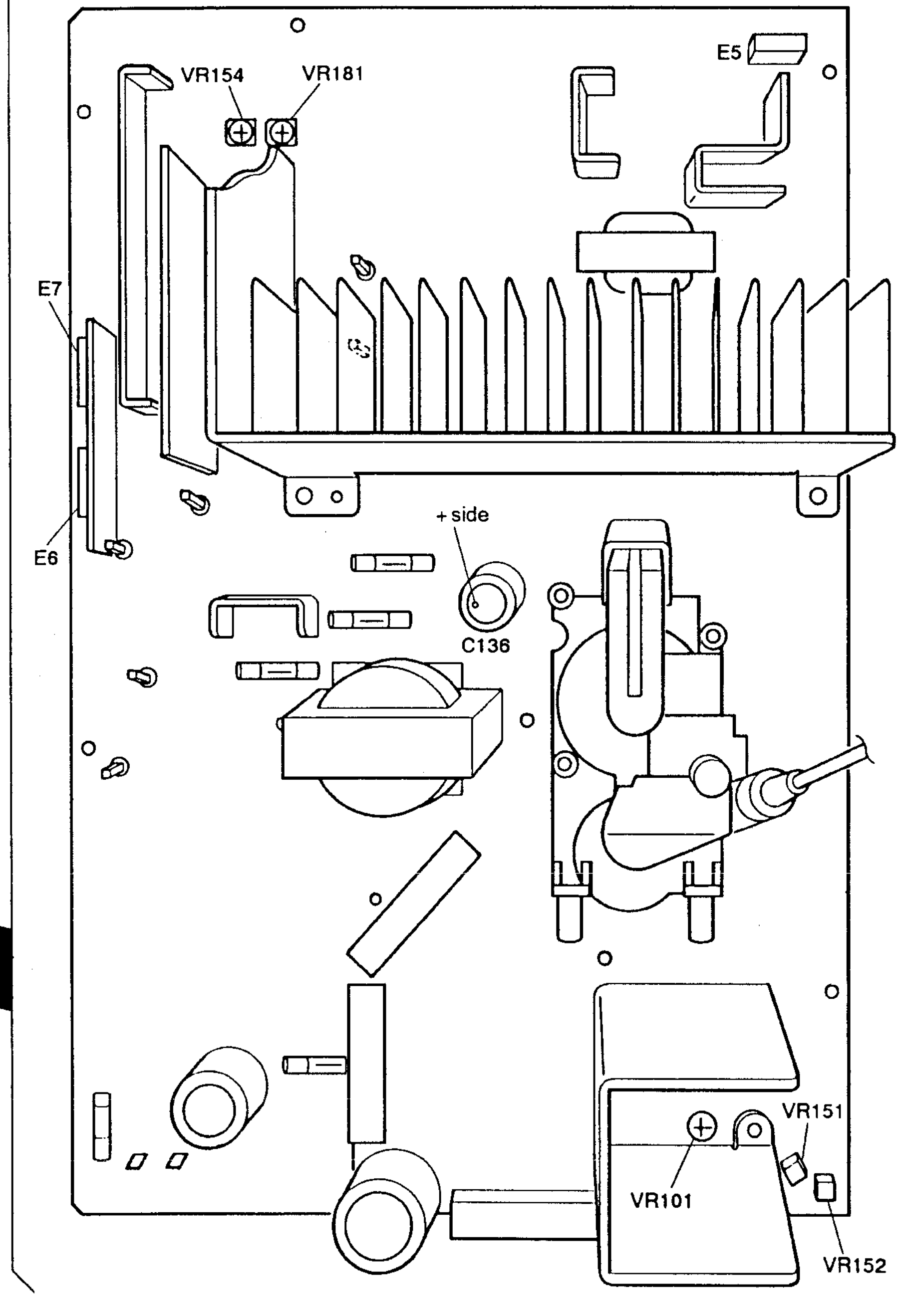

AV I/O-PINP-Y/C SEP Assembly
VR701
TUNER-VIDEO Assembly
VR351
VR352
TP-FILTER ADJ
TP-MPX. VCO
VR353
TP-COMP
VR354
TP-TEST
TP-13
VR252
IC451
TC401
IC452
VR253
VR251
DOL. PRO. MOD
VR901
Pin 1
F1

Fig. 4-8 Adjustment point (2)

POWER SUPPLY Assembly


VR154
VR181
E5
E7
E6
+side
C136
VR151
VR101
VR152

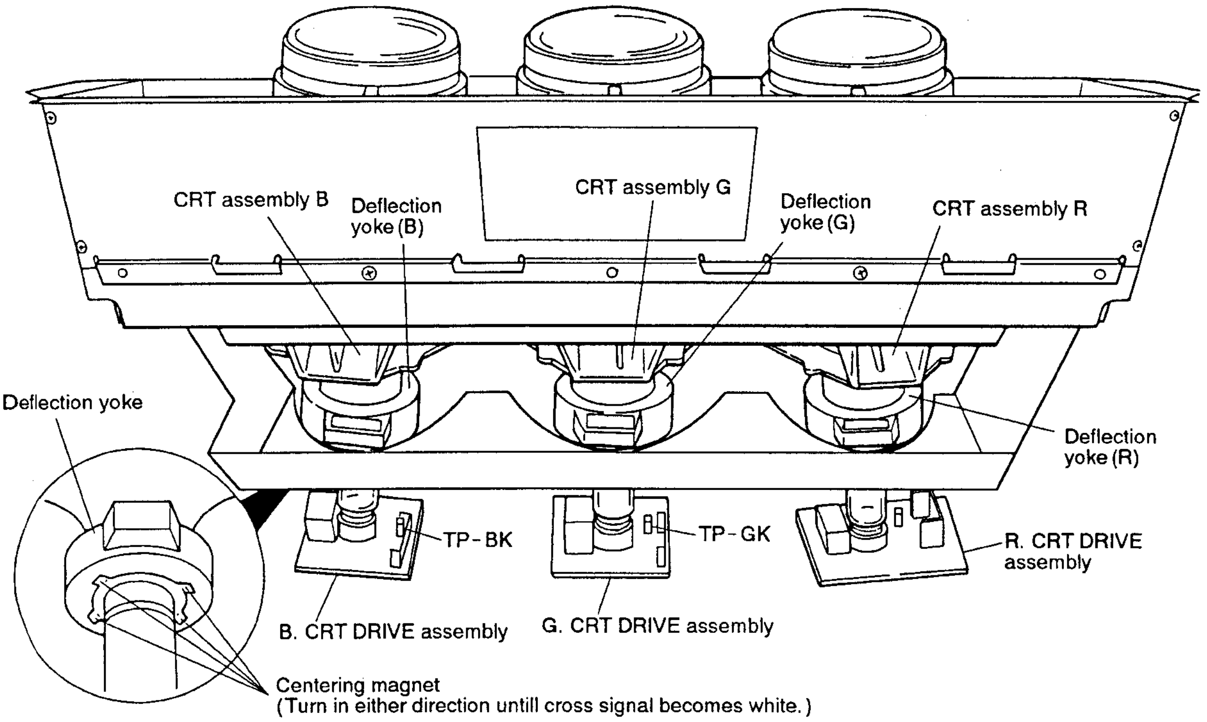

CRT assembly B
Deflection yoke (B)
CRT assembly G
Deflection yoke (G)
CRT assembly R
Deflection yoke
Deflection yoke (R)
TP-BK
TP-GK
R. CRT DRIVE assembly
B. CRT DRIVE assembly
G. CRT DRIVE assembly
Centering magnet
(Turn in either direction untill cross signal becomes white.)

Fig. 4-9 Adjustment point (3)

4.18 ON FOCUS ADJUSTMENT WITH THE LENS ASSEMBLY

Attach a sheet of translucent paper, such as tracing paper, while inserting spacers having the thickness as shown in Table 4- 1 to align it with the regular position of the screen surface. Use spacers which provide the same thickness at both the right and left sides. Turn the lens assembly of the color to be adjusted for the optimum focus setting.

Table 4 - 1 : Thickness of the spacer

Family	Size	Spacer
67	All size	Useless (Refer to Fig.4 - 12.)
65 and 64	50"	15 mm *1 (Refer to Fig. 4 – 10.)
	45"	16 mm (Refer to Fig. 4 – 10.)
	55"	15 mm (Refer to Fig. 4 – 10.)
63	40"	Useless (Refer to Fig.4 - 11.)
62	All size	Useless (Refer to Fig. 4 – 10.)
61	All size	
PRO	All size	7 mm (Refer to Fig. 4 – 10.)
SD - P5006		15 mm (Refer to Fig. 4 – 10.)
SD - P4006		Useless (Refer to Fig.4 - 11.)

*1 : SD - P5065 - Q and SD - P5064 - Q are 7 mm.

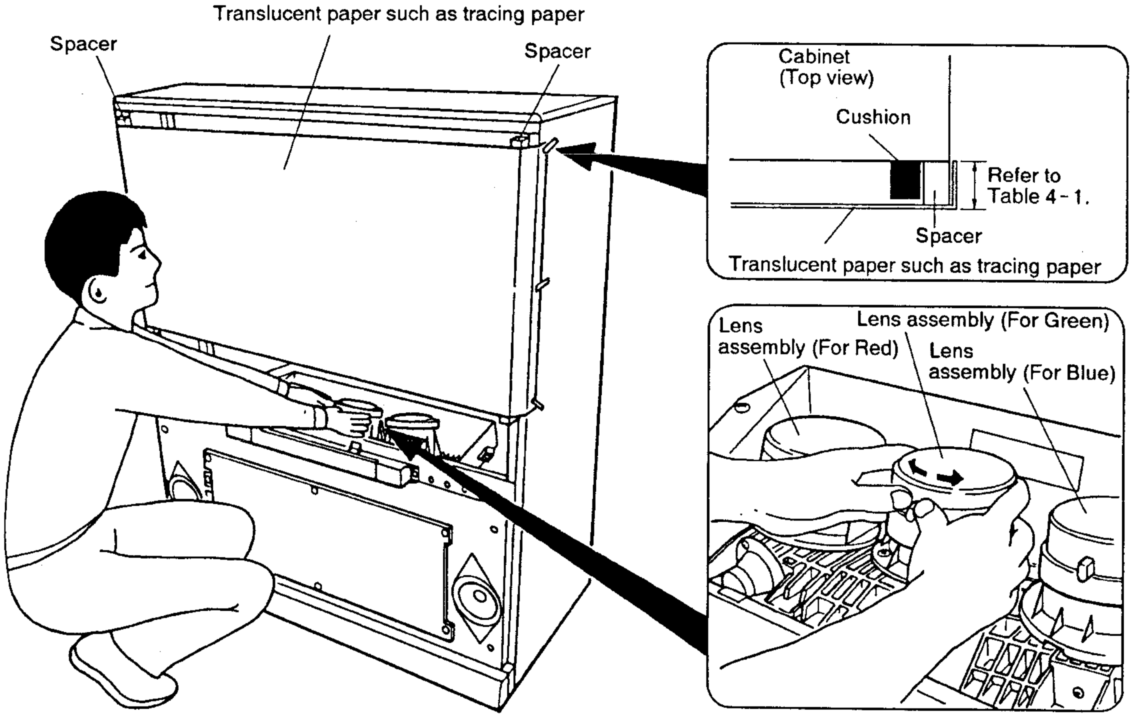

Translucent paper such as tracing paper
Spacer
Spacer
Cabinet
(Top view)
Cushion
Refer to
Table 4 - 1.
Spacer
Translucent paper such as tracing paper
Lens
assembly (For Red)
Lens assembly (For Green)
Lens
assembly (For Blue)

Fig. 4 - 10 Adjustment point (4)

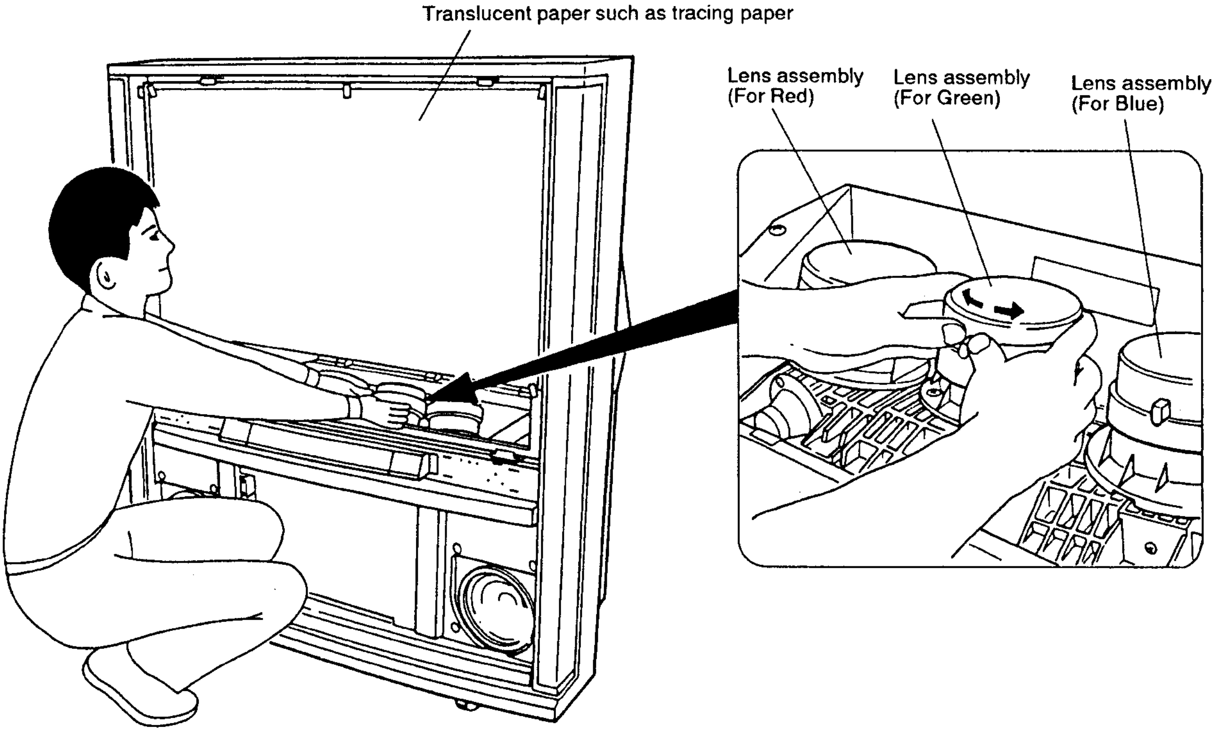

Translucent paper such as tracing paper
Lens assembly (For Red)
Lens assembly (For Green)
Lens assembly (For Blue)

Fig. 4-11 Adjustment point (5)

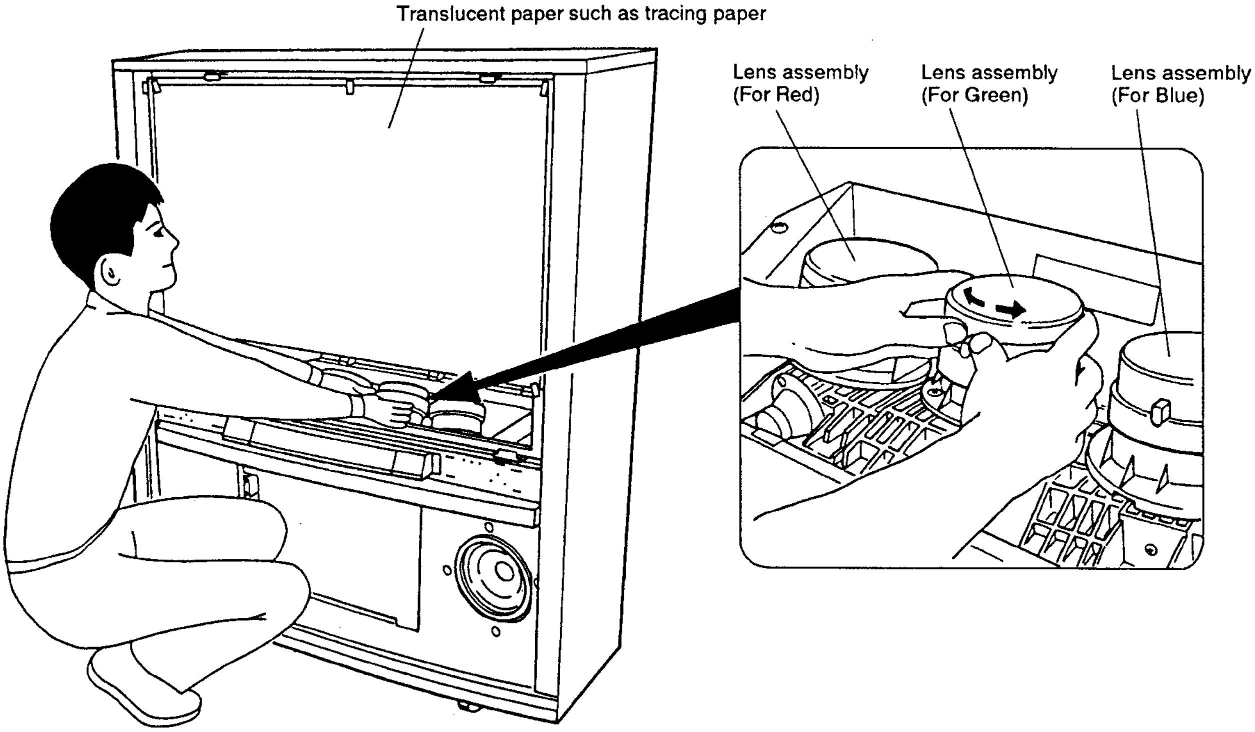

Translucent paper such as tracing paper
Lens assembly (For Red)
Lens assembly (For Green)
Lens assembly (For Blue)

Fig. 4-12 Adjustment point (6)

5. CONVERGENCE ADJUSTMENT

This model provides a large-sized picture by projecting the images reproduced on the tubes onto a flat screen through the respective lenses. A convergence adjustment is required to eliminate distortions on the screen which may be caused by such a projection system.

In the convergence adjustment, the saw-tooth, parabola, third-order, fourth-order, fifth-order and sixth-order waves supplied from IC601 and IC602 (PA0053A) are used as the correction signals.

For green, the correction signals are combined and the amounts of the correction are adjusted with volume controls provided in the convergence assembly as usual.

For red and blue, these correction signals are combined by IC603 and IC604 (PM0002A) in the convergence assembly and the amounts of the correction are adjusted with the electronic volume controls in IC603 and IC604. Those amounts data are stored in a nonvolatile memory (IC452) in the TUNER - VIDEO assembly.

Table 5 - 1 shows the items of the convergence adjustment required for this model. These items, including SKEW and BOW etc., are roughly put into four categories, the center-line adjustment, lean adjustment, distortion adjustment and line-interval adjustment. Each item must be adjusted for vertical and horizontal and for green, red and blue, individually. The picture movements in adjustment differ between the directions but are the same among the colors. For the picture movements in adjustment, see the descriptions in 5.2 and 5.3.

As the CRT assembly G (green) is arranged in the center for this model, the distortion of green is the smallest, and the adjustment for green consists of only 6 items (GH - KEY, GH - PIN, etc.), as shown in Table 5 - 1.

First adjust green and then red and blue in the specified sequence so that the red and blue lines are converged into the green lines.

Adjustment of red consists of 16 items (RH - SKEW, RH - BOW, etc.) in the horizontal direction and 14 items (RV - SKEW, RV-BOW, etc.) in the vertical direction. Adjustment of blue consists of the same items as those for red.

Table 5 - 1 Convergence Adjustment Items

Category	Item	Abbreviation *1	Green - Horizontal (GH)	Green - Vertical (GV)	Red - Horizontal (RH)	Red - Vertical (RV)	Blue - Horizontal (BH)	Blue - Vertical (BV)
Center-line adjustment	Skew	SKEW	×	○ (VR651)	○	○	○	○
	Bow	BOW	×	○ (VR652)	○	○	○	○
	4th-order Bow	4TH BOW	×	×	○	×	○	×
	Static	STATIC	×	×	○	○	○	○
Lean adjustment	Sub Keystone	SUB KEY	×	×	○	○	○	○
	Keystorne	KEY	○ (VR656)	○ (VR653)	○	○	○	○
	Mid Keystorne	MID KEY	×	×	×	○	×	○
Distortion adjustment	Sub Pin	SUB PIN	×	×	○	○	○	○
	Mid Sub Pin	M S PIN	×	×	○	×	○	×
	4th-order Sub Pin	4 S PIN	×	×	○	×	○	×
	S-curve Pin	S C PIN	×	×	×	○	×	○
	Pin	PIN	○ (VR655)	○ (VR654)	○	○	○	○
	Mid Pin	MID PIN	×	×	○	○	○	○
	4th-order Pin	4TH PIN	×	×	○	○	○	○
Line-interval adjustment	Linearity	LIN	×	×	○	○	○	○
	4th-order Linearity	4TH LIN	×	×	○	×	○	×
	Size	SIZE	×	×	○	○	○	○
	Sub Linearity	SUB LIN	×	×	○	○	○	○

*1: The abbreviations are shown as a telop display in FACTORY ADJ mode (for red and blue only).

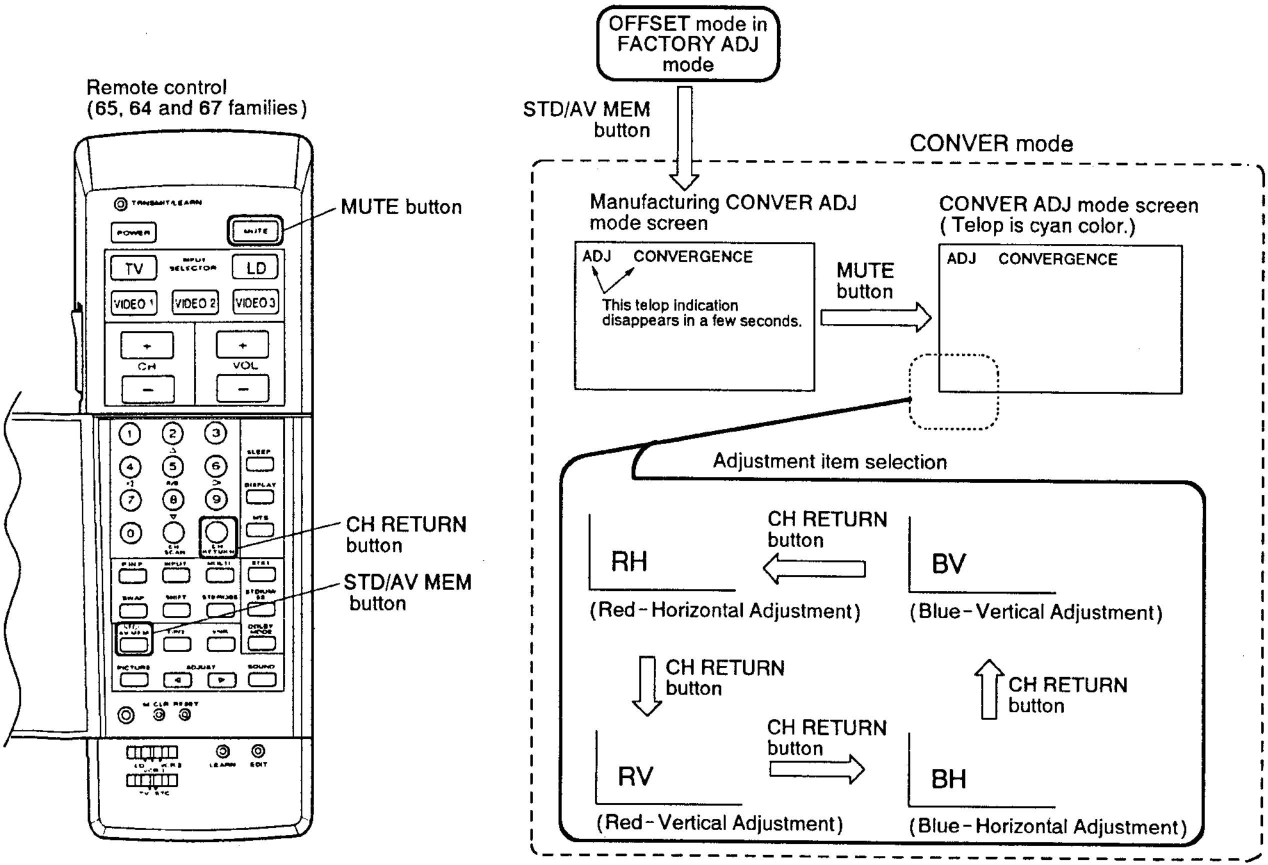
Note: The symbol "○" in the table means that the adjustment of the corresponding item is required.
Use the volume controls in the convergence assembly shown in parentheses when specified for that item.
The other items are adjusted in FACTORY ADJ mode.
The symbol " × " means that the adjustment of the corresponding item is not required.

5.1 FACTORY ADJ MODE

As previously mentioned, the corrected amounts of red and blue lines are stored in a nonvolatile memory (IC452) of the TUNER-VIDEO assembly. Thus, each time the convergence is adjusted, data on the corrected amounts must be newly stored in the memory. CONVER mode in FACTORY ADJ mode is provided for this operation.
CONVER mode consists of manufacturing CONVER ADJ mode and CONVER ADJ mode. Manufacturing CONVER ADJ mode is used only in the manufacturing process. For service adjustments, CONVER ADJ mode must be used.
For the adjustment of green, the volume controls are provided in the convergence assembly, which enable the adjustment regardless whether CONVER mode of FACTORY ADJ mode is activated or not. However, the adjustment may be easier with a function provided in CONVER mode to erase the colors independently (see STEP 3).
Follow the operating procedure described below to use CONVER mode.

[STEP 1]
Fig. 5 - 1 shows how to enter CONVER mode. To activate CONVER mode, press the STD/AV MEM button on the remote control in OFFSET mode of FACTORY ADJ mode. When CONVER mode is initiated, the unit enters manufacturing CONVER ADJ mode. Press the MUTE button to change it to CONVER ADJ mode.

[STEP 2]
In CONVER ADJ mode, first select the color to be adjusted along with the direction (RH, RV, BH or BV). See Fig. 5 - 1 for the selection procedure which uses the CH RETURN button on the remote control. Green can be adjusted regardless of the selection in this step.


Remote control
(65, 64 and 67 families)
MUTE button
CH RETURN button
STD/AV MEM button
OFFSET mode in FACTORY ADJ mode
STD/AV MEM button
CONVER mode
Manufacturing CONVER ADJ mode screen
ADJ CONVERGENCE
This telop indication disappears in a few seconds.
MUTE button
CONVER ADJ mode screen
(Telop is cyan color.)
ADJ CONVERGENCE
Adjustment item selection
CH RETURN button
RH
(Red-Horizontal Adjustment)
BV
(Blue-Vertical Adjustment)
CH RETURN button
CH RETURN button
CH RETURN button
RV
(Red-Vertical Adjustment)
BH
(Blue-Horizontal Adjustment)

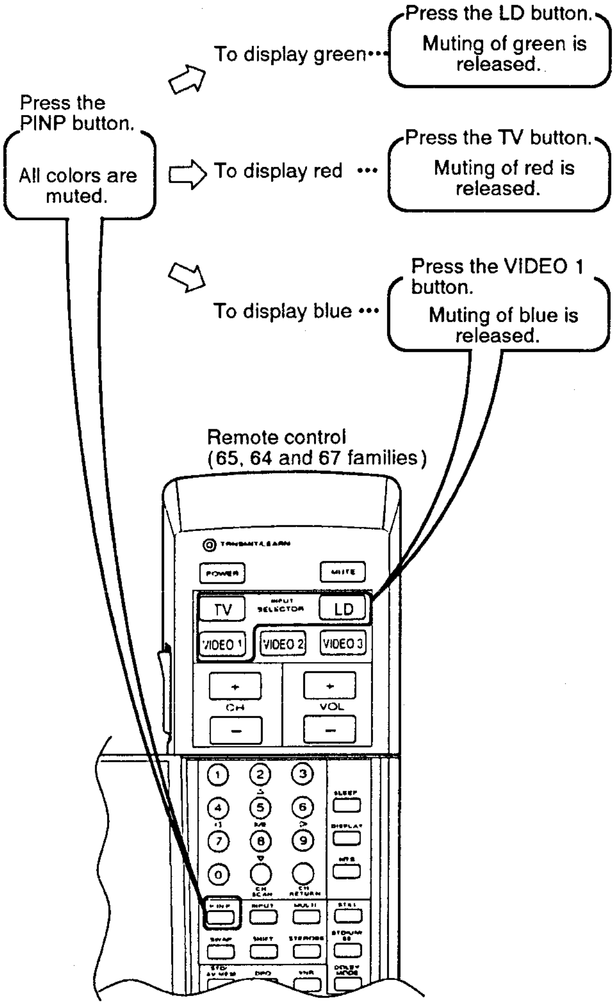
Note: It is not possible to return to OFFSET mode from CONVER ADJ mode. When CONVER ADJ mode is deactivated, FACTORY ADJ mode is deactivated by pressing S558 in the front.

Fig. 5-1 Hierarchy of CONVER Mode

[STEP 3]

Select the color to be muted. Fig. 5 - 2 shows the selection procedure. Normally, mute red and blue when adjusting green, mute blue when adjusting red, and mute red when adjusting blue.

Note: This function cannot be operated with the remote control supplied with the 62 and 61 family models. When adjusting 62 and 61 family models, use the remote control supplied with the models of the other families or shift red or blue lines by moving H - and V- STATIC in CONVER ADJ mode within the telop indication range (010 to - 010).


Press the PINP button. All colors are muted.

To display green··· Press the LD button. Muting of green is released.

To display red ··· Press the TV button. Muting of red is released.

To display blue ··· Press the VIDEO 1 button. Muting of blue is released.

Remote control (65, 64 and 67 families)

POWER
MUTE
TV
INPUT SELECTOR
LD
VIDEO 1
VIDEO 2
VIDEO 3
CH
VOL
SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
PINP
INPUT
MULTI
STILL
SWAP
SHIFT
STEREO
STD/AV MEM
DPO

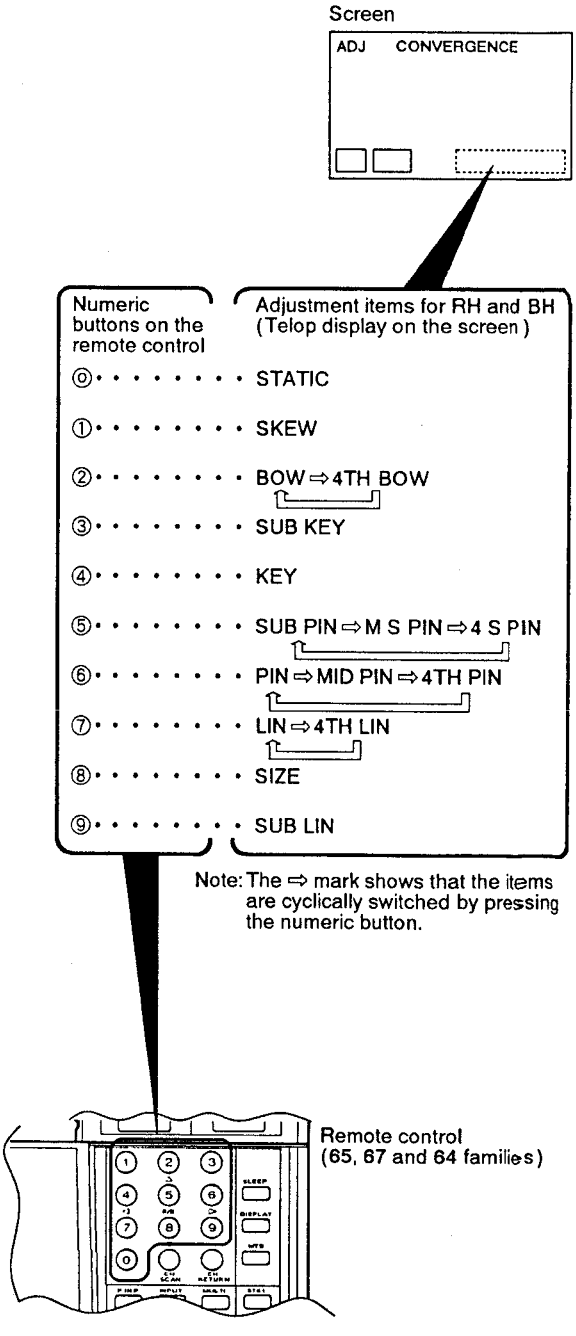
Note: Once muting of a color is released, that color cannot be muted unless the P IN P button is pressed to mute all colors simultaneously.

Fig. 5 - 2 Color Muting

[STEP 4]

Select the adjustment items for red or blue using the numeric buttons on the remote control. The items differ for the horizontal and vertical directions. The items which are specified for the numeric buttons in the horizontal and vertical directions are shown in Fig. 5 - 3 and Fig. 5 - 4, respectively.

This step can be skipped when adjusting green.


Screen
ADJ CONVERGENCE

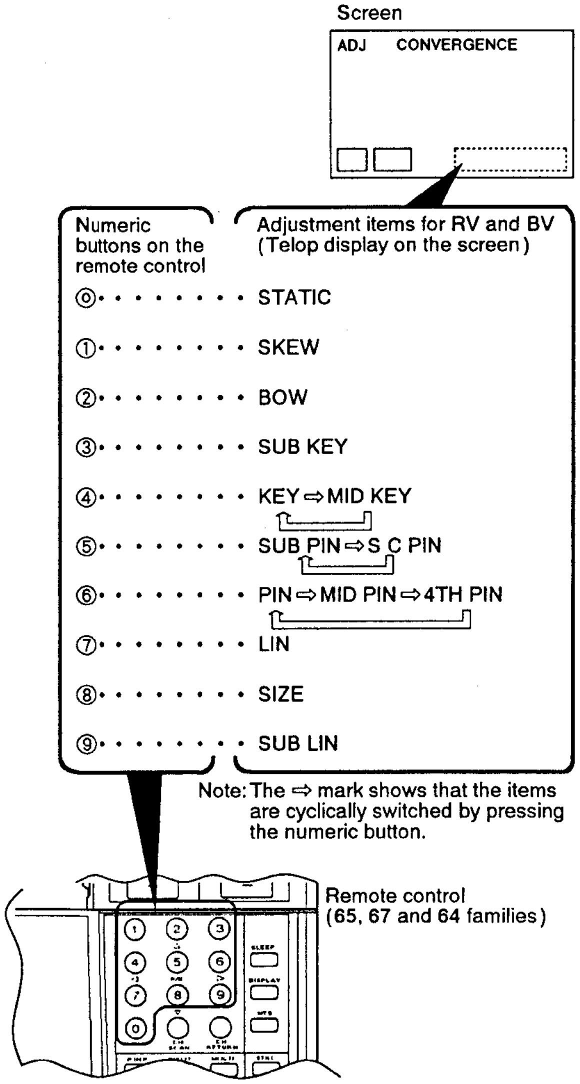
Numeric buttons on the remote control	Adjustment items for RH and BH (Telop display on the screen)
⓪	STATIC
①	SKEW
②	BOW ⇨ 4TH BOW
③	SUB KEY
④	KEY
⑤	SUB PIN ⇨ M S PIN ⇨ 4 S PIN
⑥	PIN ⇨ MID PIN ⇨ 4TH PIN
⑦	LIN ⇨ 4TH LIN
⑧	SIZE
⑨	SUB LIN

Note: The ⇨ mark shows that the items are cyclically switched by pressing the numeric button.

Remote control (65, 67 and 64 families)

SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
PINP
INPUT
MULTI
STILL

Fig. 5 - 3 Adjustment Items for RH and BH



Numeric buttons on the remote control	Adjustment items for RV and BV (Telop display on the screen)
⓪	STATIC
①	SKEW
②	BOW
③	SUB KEY
④	KEY⇨MID KEY
⑤	SUB PIN⇨S C PIN
⑥	PIN⇨MID PIN⇨4TH PIN
⑦	LIN
⑧	SIZE
⑨	SUB LIN

Note: The ⇨ mark shows that the items are cyclically switched by pressing the numeric button.

Fig. 5-4 Adjustment Items for RV and BV

[STEP 5]
By pressing the ADJUST buttons on the remote control (see Fig. 5 - 5 - 1) after selecting an adjustment item for red or blue, the picture on the screen moves. Use these buttons and perform the adjustment by following the procedures described in the sections that follow.
For the picture movements, see 5.2 and 5.3.
When the picture moves, the numeric data (Variable range : 127 to -128 *1) in the telop display also change (see Fig, 5-5-2), which will be stored in a nonvolatile memory.
For the adjustment of green, the volume controls in the convergence assembly are used. For details, see 5.5.

*1: Be sure to adjust H- and V- STATIC by changing the data value within the range (010 to - 010) of the telop indication. If this range is exceeded, the convergence assembly may be damaged.

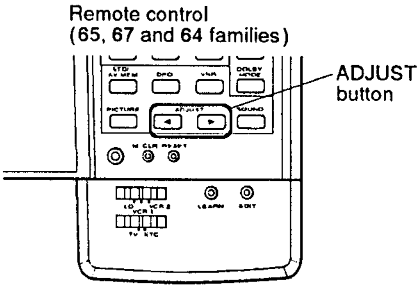


Fig. 5-5-1 ADJUST button

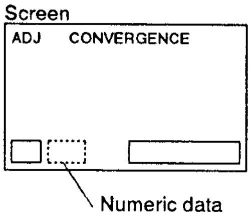


Fig. 5-5-2 CONVER ADJ mode screen

[STEP 6]
When the adjustment of an item of RH, RV, BH or BV is finished, first select the next color to be adjusted and direction (horizontal/vertical) and then continue the adjustment by performing the subsequent steps.

When the entire convergence adjustment is completed, display all three colors and perform fine adjustment. Then press S558 (the FACTORY ADJ mode ON/OFF switch) on the front panel to release FACTORY ADJ mode. Note that it is not possible to switch from CONVER ADJ mode to the other modes of FACTORY ADJ mode. CONVER ADJ mode cannot be deactivated without releasing FACTORY ADJ mode.

Note: When reactivating FACTORY ADJ mode with 65, 64, 67 and PRO family models or SD - P5006, turn power off and turn it on again.

• For your reference
The screen becomes dark when CONVER ADJ mode is activated. By pressing the DPO button on the remote control repeatedly, the picture becomes bright (STD) and dark cyclically. Set to the brightness which is most convenient for the convergence adjustment. This function is available with all the models, even those not equipped with the DPO function.

5.2 PICTURE MOVEMENTS IN HORIZONTAL ADJUSTMENTS

The adjustments in the horizontal direction are performed by applying the convergence correction signals to the horizontal deflection and changing the amount of the correction. With these adjustments, the vertical lines will move.

This section describes the picture movements and the adjusting points when adjusting each item using a cross-hatch signal input.

See Fig. 5-6 for reference, in which each of the sections to the right and left to the center vertical line of the screen are divided into three blocks to describe the picture movements.

5.2.1 Center-line adjustment in the Horizontal Direction

See Table 5-2 for the picture movements and general information on this adjustment.

This adjustment consists of H-SKEW, H-BOW, H-4TH BOW and H-STATIC to correct the overall picture.

Adjust the center vertical line so that it is not distorted and is straight and perfectly vertical.

The center vertical line does not move when adjusting the other items. Use the center vertical line set through this adjustment as reference for the other adjustments. After adjusting the center line, adjust the screen sections to the right and left of the center line.

Note that there may be some deviation in the overall picture if this adjustment is performed alone. Finely adjust the picture with subsequent adjustments.

Caution

Be sure to adjust H-STATIC by changing the data value within the range (010 to -010) of the telop indication in CONVER ADJ mode of FACTORY ADJ mode. If this range is exceeded, the convergence assembly may be damaged. If the adjustment is not possible within the range of 010 to -010, set the data value to 0, turn the centering magnet of the deflection yoke and fine-adjust H-STATIC.

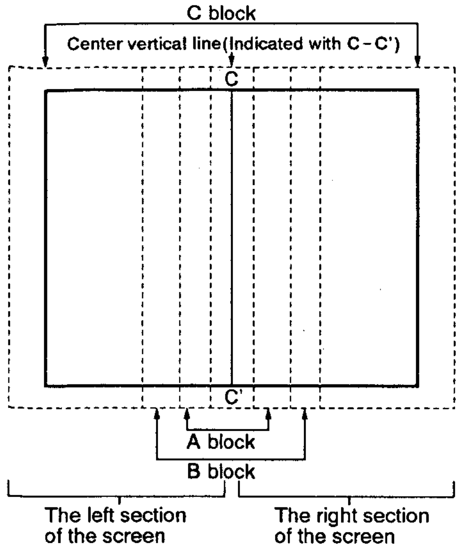
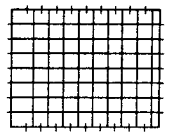
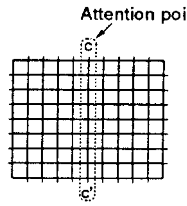
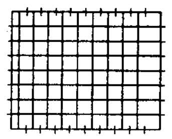
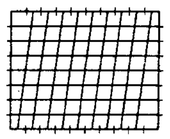
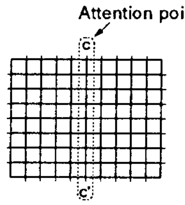
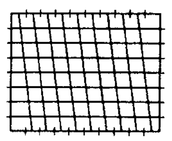
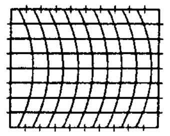
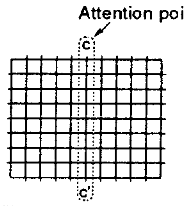
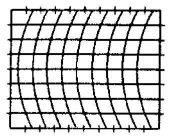
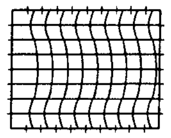
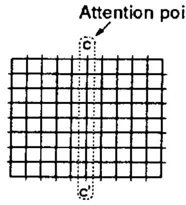
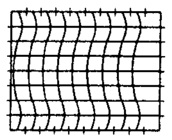

C block
Center vertical line(Indicated with C-C')
C
C'
A block
B block
The left section of the screen
The right section of the screen

Fig. 5-6 Screen Divisions for Horizontal Adjustment

Table 5-2 Center-line Adjustment in the Horizontal Direction

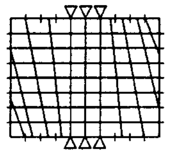
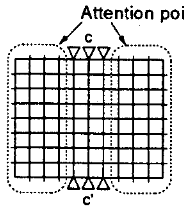
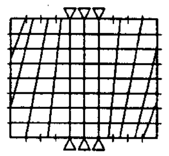
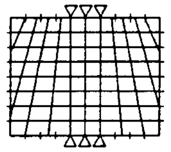
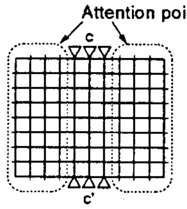
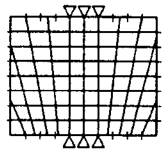
Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H-STATIC *1	⓪				Center vertical line	Move the vertical line at the attention point on the screen shown in the figure to the left to converge it in the green line which has been set for reference. This provides the reference position of the center vertical line for the convergence adjustment.		The overall picture moves in parallel in the same manner as with the user-convergence adjustment.
H-SKEW	①				Center vertical line	Eliminate the lean at the attention point on the screen shown in the figure to the left.	Adjust H-SKEW, H-BOW, H-4TH BOW repeatedly until the center vertical line is straight and is perfectly vertical. Adjust H-SKEW and H-4TH BOW so that the A blocks are in the optimal condition. (The lean and waving distortion in the A blocks cannot be eliminated with the other adjustments.)	The lean of the overall picture is corrected. As shown in the figure to the left, the overall picture is leaned.
H-BOW	②				Center vertical line	Adjust so that the bowed line at the attention point on the screen shown in the figure to the left is straight.		The bowed lines over the overall screen are corrected. All the vertical lines are bowed as shown in the figure to the left.
H-4TH BOW					Center vertical line	Adjust so that the wavy line in the attention-point on the screen shown in the figure to the left is straight.		The waving (fourth-order) distortion over the overall screen is corrected. As shown in the figure to the left, the whole picture is distorted in waves.

*1: H-STATIC can be shifted for convenience while adjusting the other items. Be sure to adjust the other items in consideration of the shift in H-STATIC and then readjust H-STATIC. (Be sure to shift it within the telop indication range of 010 to -010.)

5.2.2 Lean Adjustment in the Horizontal Direction

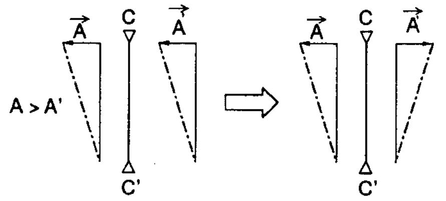
See Table 5 - 3 for the picture movements and general information on this adjustment.
The right and left sections of the screen are corrected with H - SUB KEY and H - KEY. Adjust the lean in the B and C blocks on the screen to eliminate.

Table 5 - 3 Lean adjustment in the Horizontal direction

Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture Screen	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H - SUB KEY * 1	③		⇔  ⇔		B and C blocks	Adjust to eliminate any lean at the attention-point blocks on the screen shown in the figure to the left. If the lean cannot be eliminated, set the screen to the status in which H - KEY has deviation as shown in Fig. 5 - 7, and adjust H - KEY.	Alternately adjust H - SUB KEY and H - KEY so that the lean in the B and C blocks is eliminated.	The lean in the B and C blocks on the screen is corrected. The right and left sections of the screen move in the same direction.
H - KEY	④		⇔  ⇔		B and C blocks	Adjust to eliminate the lean in the attention-point blocks on the screen shown in the figure to the left.		The lean in the the B and C blocks on the screen is corrected. The right and left sections move symmetrically in relation to the center line.

* 1 : H - SUB - KEY substantially differs from that of the previous - year model SD - P4053 - K in picture movement and attention points.

Note:
▷————◁ : Line which does not move.



A = A'
$\vec{A} = -\vec{A'}$

Note:
C ▷————◁ C' : Center vertical line
———— : Reference line
-·-·-·-·- : Leaned line

$\vec{A}$: Vector of the deviation in the left section of the screen
$\vec{A'}$: Vector of the deviation in the right section of the screen
A : Scalar quantity of the deviation in the left section of the screen
A' : Scalar quantity of the deviation in the right section of the screen

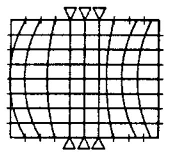
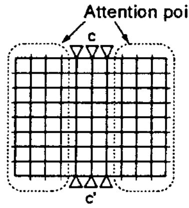
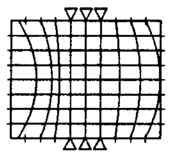
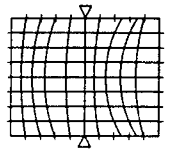
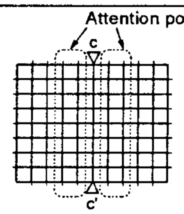
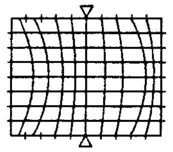
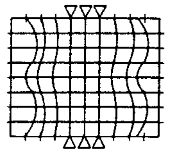
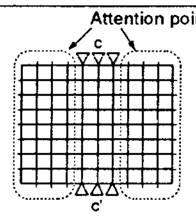
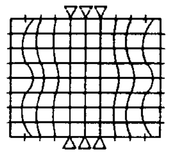
Fig. 5 - 7 Example of H - SUB KEY

5.2.3 Distortion Adjustment in the Horizontal Direction (1)

See Table 5 - 4 for the picture movements and general information on this adjustment.

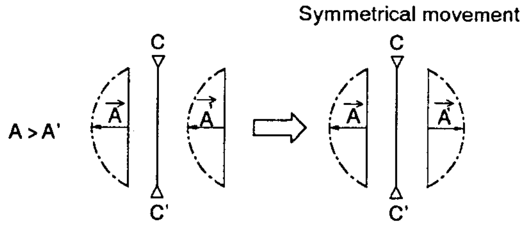
In this adjustment, the distortion on the screen is corrected with H - M S PIN, H - SUB PIN and H - 4 S PIN while moving the right and left sections in the same direction. Adjust them so that the distortion in the right and left sections is eliminated and the vertical lines in both sections are straight. If straight lines cannot be obtained, first set the picture to the status in which it is symmetrically distorted and then adjust H - MID PIN, H - PIN and H - 4TH PIN.

Table 5 - 4 Distortion Adjustment in the Horizontal Direction (1)

Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H - SUB PIN *1	⑤	 ⇔	 ⇔		B and C blocks (Especially C block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.	First adjust the A block with H - M S PIN and set the B block to a roughly-adjusted state. Then adjust the B and C blocks with H - SUB PIN. If the B and C blocks are distorted in waves, adjust H - 4 S PIN. Repeat these adjustments until the vertical lines in both the left and right sections of the screen are straight. If straight lines cannot be obtained, move the right and left sections symmetrically as shown in Fig. 5 - 8 in the opposite directions to the same extent and adjust H - MID PIN, H - PIN and H - 4TH PIN.	The bowed lines are corrected centering the C block on the screen. As shown in the figure to the left, the lines in the C block move more than those in the B block. The lines in the right and left sections move in the same direction.
H - M S PIN *1		 ⇔	 ⇔		A and B blocks (Especially B block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected centering the B block on the screen. As shown in the figure to the left, the B block move more than the C block. The right and left sections move in the same direction.
H - 4 S PIN		 ⇔	 ⇔		B and C blocks	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The wavy lines (fourth-order) are corrected in the B and C blocks on the screen. The right and left sections move in the same direction.

*1 : H - SUB PIN and H - M S PIN work relative to each other. Be sure to adjust them alternately.

Note:
▷————◁ : Line which does not move.



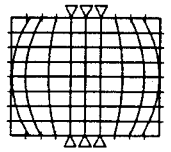
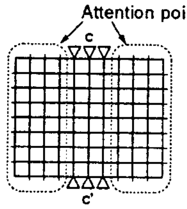
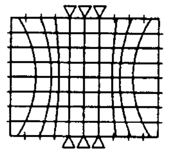
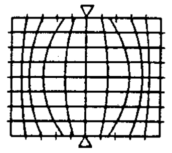
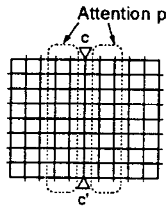
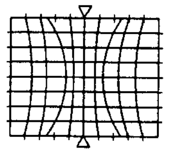
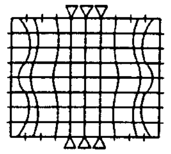
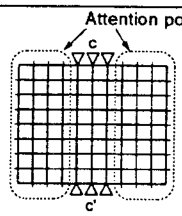
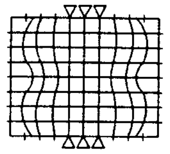
Note:
C▷————◁C' : Center vertical line
———— : Reference line
-·-·-·-·- : Distorted line
$\vec{A}$: Vector of the deviation in the left section of the screen
$\vec{A}'$: Vector of the deviation in the right section of the screen
A : Scalar quantity of the deviation in the left section of the screen
A' : Scalar quantity of the deviation in the right section of the screen

Fig. 5 - 8 Example of Distortion Adjustment in the Horizontal Direction (1)

5.2.4 Distortion Adjustment in the Horizontal Direction (2)

See Table 5 - 5 for the picture movements and general information on this adjustment.
In this adjustment, the distortion on the screen is corrected with H - MID PIN, H - PIN and H - 4TH PIN while moving the right and left sections of the screen symmetrically in relation to the center line. Adjust so that the distortion in the right and left sections is eliminated and the vertical lines in both sections are straight.

Table 5 - 5 Distortion Adjustment in the Horizontal Direction (2)

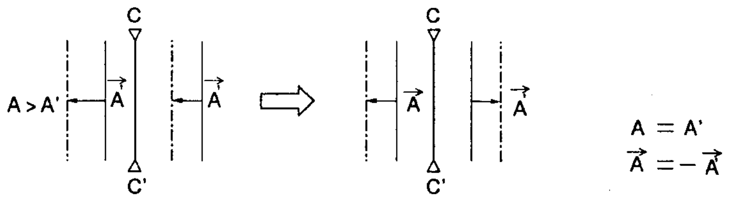
Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H - PIN *1	⑥		⇔  ⇔		B and C blocks (Especially C block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.	First adjust the A blocks with H - MID PIN and set the B blocks to a roughly-adjusted state. Then adjust the B and C blocks with H - PIN. If there is waving distortion, adjust H - 4TH PIN. Repeat these adjustments until the vertical lines in both the left and right sections of the screen are straight.	The bowed lines are corrected centering the C block on the screen. As shown in the figure to the left, the C block move more than the B block. And the right and left sections move symmetrically in relation to the center line.
H - MID PIN *1			⇔  ⇔		A and B blocks (Especially B block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected centering the B block on the screen. As shown in the figure to the left, the B block move more than the C block. And the right and left sections move symmetrically in relation to the center line.
H - 4TH PIN			⇔  ⇔		B and C blocks	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The wavy lines (fourth-order) are corrected in the B and C blocks on the screen. As shown in the figure to the left, and the right and left sections move symmetrically in relation to the center line.

*1 : H - PIN and H - MID PIN work relative to each other. Be sure to adjust them alternately.

Note:
▷——◁ : Line which does not move.

5.2.5 Line-Interval Adjustment in the Horizontal Direction

See Table 5-6 for the picture movements and general information on this adjustment.
In this adjustment, the intervals of the vertical lines are corrected with H-4TH LIN, H-LIN, H-SIZE and H-SUB LIN. Converge the vertical lines in the right and left sections of the screen in the green vertical lines which have been set for reference.
The differences between H-LIN, H-4TH LIN, H-SIZE and H-SUB LIN are shown in Table 5-7.



Note:
C▷————◁C' : Center vertical line
———— : Reference line
-·-·-·-·- : Deviating line
$\vec{A}$: Vector of the deviation in the left section of the screen
$\vec{A}'$: Vector of the deviation in the right section of the screen
A : Scalar quantity of the deviation in the left section of the screen
A' : Scalar quantity of the deviation in the right section of the screen

Fig. 5-9 Example of Line-Interval Adjustment in the Horizontal Direction

Table. 5-7 Difference Between Adjustment Items

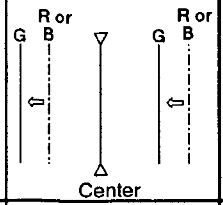
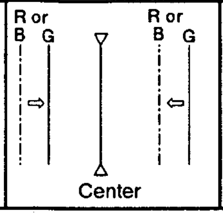
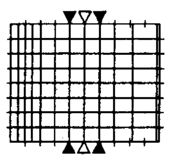
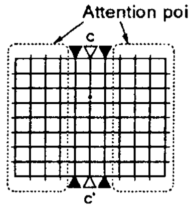
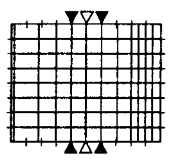
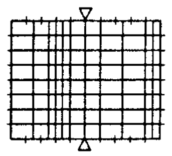
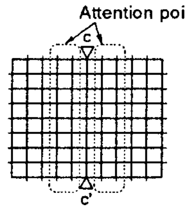
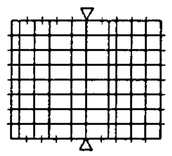
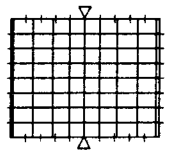
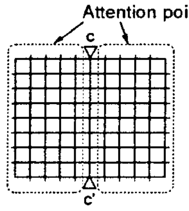
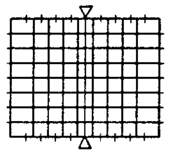
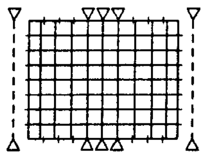
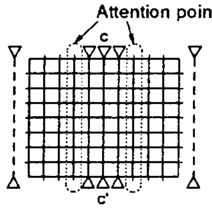
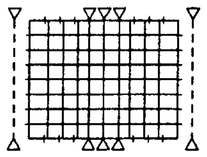
Item	Screen Example	Remarks
H-4TH LIN and H-LIN		H-4TH LIN and H-LIN should be adjusted when the right and left sections of the screen show deviation in the same direction.
H-SIZE and H-SUB LIN		H-SIZE and H-SUB LIN should be adjusted when the right and left sections of the screen show deviation symmetrically in relation to the center line.

Table 5-6 Line-Interval Adjustment in the Horizontal Direction

Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H-LIN *1	⑦	 ⇔	 ⇔		B and C blocks	Observe the movements with H-SIZE and H-SUB LIN and move the lines in the right and left sections in the opposite directions to the same extent. (See Fig. 5-9.)	First move the lines in the A blocks with H-4TH LIN and then those in the B and C blocks with H-LIN. Adjust them repeatedly until the optimum line intervals are obtained. *2	The line intervals are corrected centering the C block on the screen. As shown in the figure to the left, the lines in the right and left sections of the screen move centering the respective C block.
H-4 TH LIN *1		 ⇔	 ⇔		A and B blocks (Especially B block)	Observe the movements with H-SIZE and H-SUB LIN and move the lines in the right and left sections in the opposite directions to the same extent. (See Fig. 5-9.)		The line intervals are corrected centering the A and B blocks on the screen. As shown in the figure to the left, the lines in the right and left sections of the screen move centering the respective A and B block.
H-SIZE *2	⑧	 ⇔	 ⇔		A, B and C blocks	Converge the vertical lines in the green vertical lines which have been set for reference.	Adjust the vertical lines in the right and left sections of the screen with H-SIZE. If the lines cannot be converged in the B blocks, adjust H-SUB LIN.	The line intervals in the right and left sections (A, B and C blocks) of the screen are corrected. As shown in the figure to the left, the line intervals in the right and left sections of the screen change with the center line as the axis.
H-SUB LIN *2	⑨	 ⇔	 ⇔		B block	Converge the vertical lines in the attention-point blocks on the screen shown in the figure to the left in the green vertical lines which have been set for reference.		The line intervals in the B block on the screen are corrected. As shown in the figure to the left, the lines in the center of B block of the right and left sections move in the same manner as with H-SIZE.

*1: H-4TH LIN and H-LIN work relative to each other. Be sure to adjust them alternately.
*2: When convergence in the green lines is achieved with H-4TH LIN and H-LIN, further adjustments with H-SIZE and H-SUB LIN are not necessary.

Note:
▷————◁ : Line which does not move at all.
▶————◀ : Line which hardly moves.
▷- - - - - - - -◁ : Line which does not move out of the screen.

5.3 PICTURE MOVEMENTS IN VERTICAL ADJUSTMENTS

The adjustments in the vertical direction are performed by applying the convergence correction signals to the vertical deviation to change the amount of correction. With these adjustments, the horizontal lines will move.

This section describes the picture movements and the adjusting points when adjusting each item using a cross-hatch input.

See Fig. 5- 10 for reference, in which each of the sections above and below the center horizontal line of the screen are divided into two blocks to describe the picture movements.

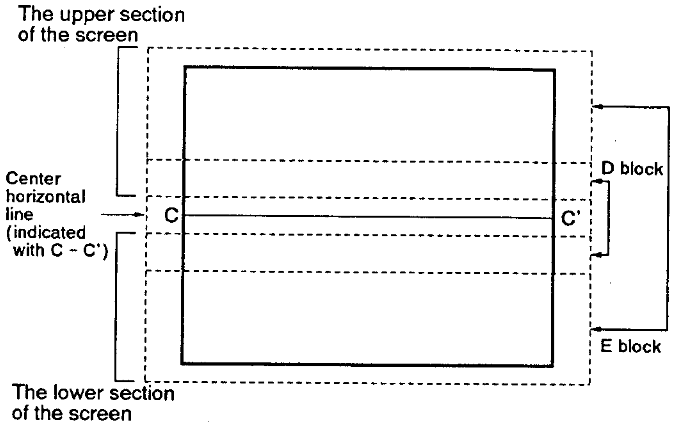

The upper section of the screen
Center horizontal line (indicated with C - C')
C
C'
D block
E block
The lower section of the screen

Fig. 5- 10 Screen Divisions for Vertical Adjustments

5.3.1 Center- line Adjustment in the Vertical Direction

See Table 5 - 8 for the picture movements and general information on this adjustment.

This adjustment consists of V- SKEW, V- BOW and V- STATIC to correct the overall picture. Adjust the center horizontal line so that it is not distorted and is straight and perfectly horizontal. The center horizontal line does not move when adjusting the other items. Use the center horizontal line set through this adjustment as the reference for the other adjustments. After adjusting the center line, adjust the screen sections above and below the center line.

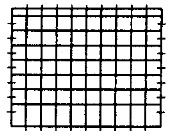
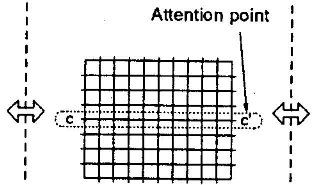
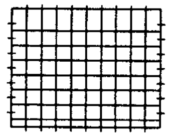
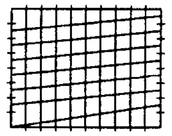
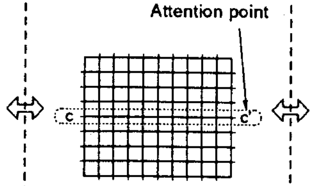
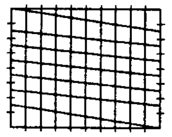
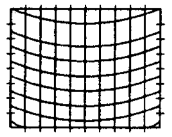
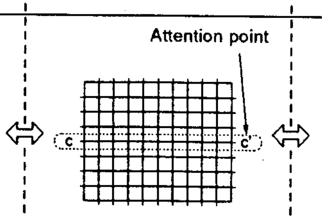
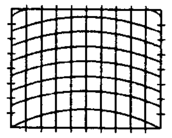
Note that there may be some deviation in the overall picture if this adjustment is performed alone. Finely adjust the picture with subsequent adjustments.

Caution

Be sure to adjust V- STATIC by changing the data value within the range (010 to - 010) of the telop indication in CONVER ADJ mode of FACTORY ADJ mode.

If this range is exceeded, the convergence assembly may be damaged. If the adjustment is not possible within the range of 010 to - 010, set the data value to 0, turn the centering magnet of the deflection yoke and fine- adjust V- STATIC.

Table 5 - 8 Center- line Adjustment in the Vertical Direction

Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V- STATIC *1	◎				Center horizontal line	Move the horizontal line at the attention point on the screen shown in the figure to the left to converge it in the green line which has been set for the reference. This provides the reference position of the center horizontal line for the convergence adjustment.		The overall picture moves in parallel in the same manner as with the user- convergence adjustment.
V- SKEW	①				Center horizontal line	Eliminate the lean at the attention point on the screen shown in the figure to the left.	Adjust V-SKEW and V-BOW repeatedly until the center horizontal line is straight and is perfectly horizontal. Be sure to set to the range in which the D blocks can be adjusted with V- MID KEY. (For the D blocks, the distortion cannot be independently adjusted and the lean is eliminated only with V - MID KEY.)	The lean of the overall picture is corrected. As shown in the figure to the left, the overall picture is leaned.
V- BOW	②				Center horizontal line	Adjust so that the bowed line at the attention point on the screen shown in the figure to the left is straight.		The bowed lines over the screen are corrected. All the horizontal lines are bowed as shown in the figure to the left.

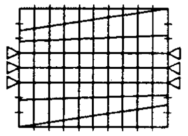
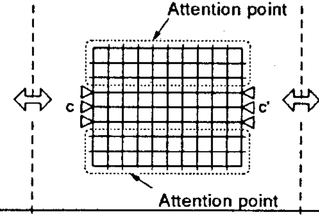
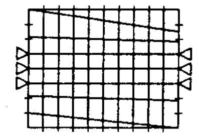
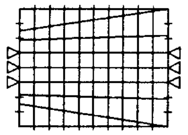
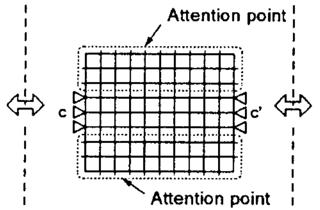
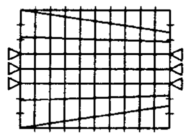
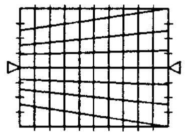
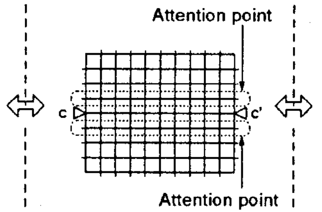
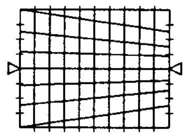
*1 :V- STATIC can be shifted for convenience while adjusting the other items. Be sure to adjust the other items in consideration of the shift in V- STATIC and then readjust V- STATIC. (Be sure to shift it within the telop indication range of 010 to - 010.)

5.3.2 Lean Adjustment in the Vertical Direction

See Table 5 - 9 for the picture movements and general information on this adjustment.

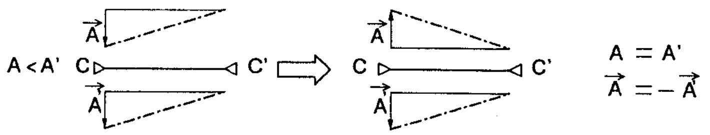
In this adjustment, lean of the picture is corrected. Adjust V - SUB KEY, V - MID KEY and V - KEY to eliminating any lean in the upper and lower sections of the screen.

Table 5 - 9 Lean Adjustment in the Vertical Direction

Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V - SUB KEY *2	③				E block	Adjust to eliminate the lean in the attention-point blocks on the screen shown in the figure to the left. If the lean cannot be eliminated, set the screen to the status in which V - KEY has deviation as shown in Fig. 5 - 11, and adjust V - KEY.	First adjust V - MID KEY so that the lean in the D block is eliminated. Then adjust V - SUB KEY and V - KEY so that the lean in the E block is eliminated. Repeat these adjustments until any lean in the upper and lower sections of the screen is eliminated.	The lean in the E block of the screen is corrected. The lines in the upper and lower sections of the screen move in the same direction.
V - KEY *1	④				E block	Adjust to eliminate the lean in the attention-point blocks on the screen shown in the figure to the left.		The lean in the E block of the screen is corrected. The upper and lower sections move symmetrically in relation to the center line.
V - MID KEY *1					D block	Adjust to eliminate any lean at the attention-point blocks on the screen shown in the figure to the left.		The lean in the upper and lower sections (D and E blocks) of the screen is corrected. The upper and lower sections move symmetrically in relation to the center line.

* 1 : V - MID KEY and V - KEY work relative to each other. Be sure to adjust them alternately.
* 2 : V - SUB - KEY substantially differs from that of the previous-year model SD - P4053 - K in picture movement and attention points.

Note:
▷————◁ : Line which does not move.



Note:
▷————◁ : Center horizontal line
———— : Reference line
-·-·-·-·- : Leaned line

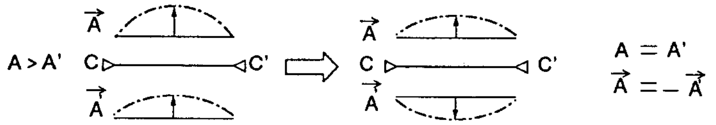
$\vec{A}$: Vector of the deviation in the upper section of the screen
$\vec{A}'$: Vector of the deviation in the lower section of the screen
A : Scalar quantity of the deviation in the upper section of the screen
A' : Scalar quantity of the deviation in the lower section of the screen

Fig. 5 - 11 Example of Vertical Lean Adjustment

5.3.3 Distortion Adjustment in the Vertical Direction

See Table 5 - 10 for the picture movements and general information on this adjustment.

In this adjustment, distortion on the screen is corrected. While adjusting V - SUB PIN, the upper and lower sections of the screen move in the same direction. While adjusting V - MID PIN, V - PIN, V - S C PIN and V - 4TH PIN, the upper and lower sections move symmetrically in relation to the center line. Adjust them so that the distortion in the upper and lower sections of the screen is eliminated and the horizontal lines in both sections are straight.



Note:

C▷———◁C' :Center horizontal line

——— :Reference line

-·-·-·- :Distorted line

$\vec{A}$:Vector of the deviation in the upper section of the screen

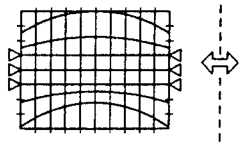
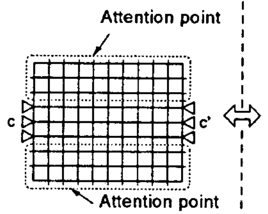
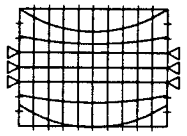
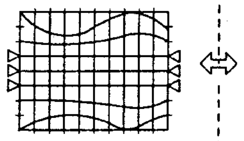
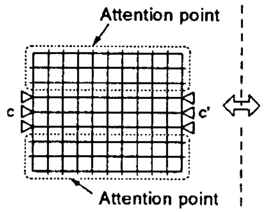
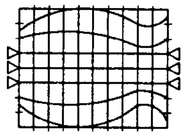
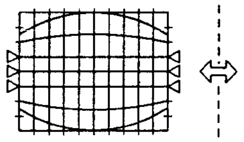
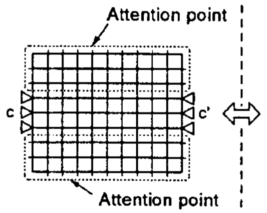
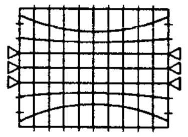
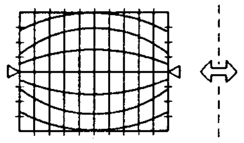
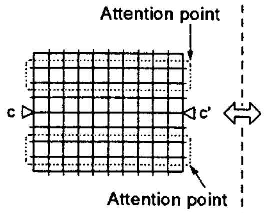
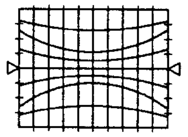
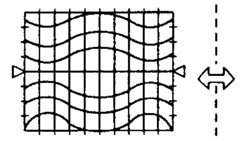
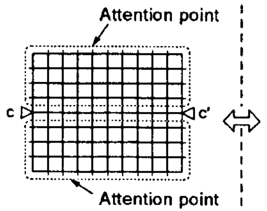
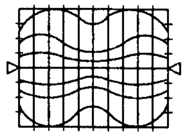
$\vec{A'}$:Vector of the deviation in the lower section of the screen

A :Scalar quantity of the deviation in the upper section of the screen

A' :Scalar quantity of the deviation in the lower section of the screen

Fig. 5 - 12 Example of V - SUB PIN Adjustment

Table 5 - 10 Distortion Adjustment in the Vertical Direction

Item	Numeric Button of the Remote Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V - SUB PIN	⑤				E block	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight. If straight lines cannot be obtained, move the upper and lower sections as shown in Fig. 5 - 12 in the opposite directions to the same extent from the center horizontal line. Adjust with V - PIN so that the lines are straight.		The bowed lines are corrected in the E block of the screen. As shown in the figure to the left, the upper and lower sections move in the opposite directions.
V - S C PIN					E block	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.	First adjust D block with V - MID PIN while setting the center-line side of E blocks to a roughly-adjusted state. Then adjust E block with V - PIN. If there is waving distortion, adjust V - 4TH PIN and V - S C PIN. Repeat these adjustments until all the horizontal lines in both upper and lower sections of the screen are straight.	The wavy lines (third-order) are corrected in the E block on the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.
V - PIN	⑥				E block	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected in the E block on the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.
V - MID PIN					D block and the center - line side of E block. (Especially the center - line side of the E block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected on the center line side of E block on the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.
V - 4TH PIN					D and E blocks	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The wavy lines (fourth-order) are corrected in the upper and lower sections (D and E blocks) of the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.

Note:

▷———◁ : Line which does not move at all.

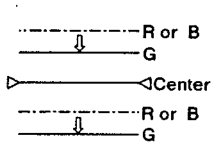
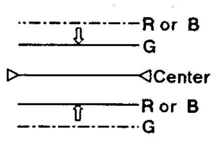
5.3.4 Line-Interval Adjustment in the Vertical Direction

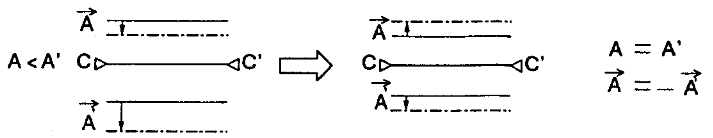
See Table 5 - 11 for the picture movements and general information on this adjustment.

In this adjustment, the intervals of the horizontal lines in the upper and lower sections of the screen are corrected with V - LIN, V - SIZE and V - SUB LIN. Converge the horizontal lines in the upper and lower sections of the screen in the green horizontal lines which have been set for reference.

The differences between V - LIN, V - SIZE and V - SUB LIN are shown in Table 5 - 12.

Table. 5 - 12 Difference Between Adjustment Items

Item	Screen Example	Remarks
V - LIN		V - LIN should be adjusted when the upper and lower sections of the screen show deviation in the same direction.
V - SIZE and V - SUB LIN		V - SIZE and V - SUB LIN should be adjusted when the upper and lower sections of the screen show the upper and lower sections move symmetrically in relation to the center line.



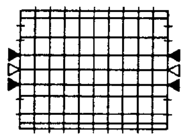
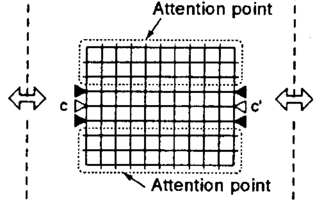
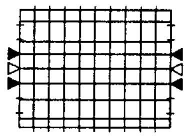
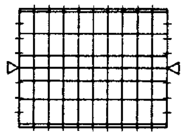
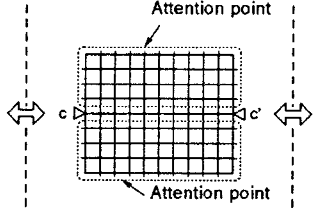
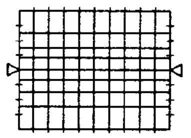
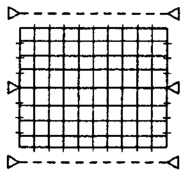
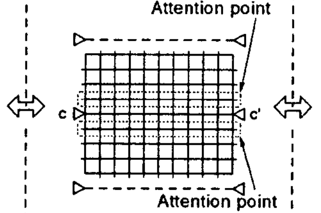
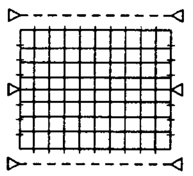
Note:

▷——◁ : Center horizontal line
—— : Reference line
-·-·- : Deviating line

$\vec{A}$: Vector of the deviation in the upper section of the screen
$\vec{A}'$: Vector of the deviation in the lower section of the screen
A : Scalar quantity of the deviation in the upper section of the screen
A' : Scalar quantity of the deviation in the lower section of the screen

Fig. 5 - 13 Example of V - LIN Adjustment

Table 5 - 11 Line - Interval Adjustment in the Vertical Direction

Item	Numeric Button of the Remote Control Unit	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V - LIN	⑦				E block	Observe the movements with V - SIZE and V - SUB LIN and move the lines in the upper and lower sections in the opposite directions to the same extent. (See Fig. 5 - 13.) When the convergence on the green lines is achieved, further adjustments with V - SIZE and V - SUB LIN are not necessary.		The line intervals are corrected centering the D and E blocks on the screen. As shown in the figure to the left, the lines in the upper and lower sections of the screen move centering the respective E block.
V - SIZE	⑧				D and E blocks	Converge the horizontal lines in the green horizontal lines which have been set for the reference.	Adjust the horizontal lines in the upper and lower sections of the screen with V - SIZE. If the lines in the D block cannot be converged, adjust V - SUB LIN.	The line intervals in the upper and lower sections (D and E blocks) of the screen are corrected. As shown in the figure to the left, the line intervals in the upper and lower sections of the screen change with the center line as the axis.
V - SUB LIN	⑨				D block	Converge the horizontal lines in the attention-point sections in the green horizontal lines which have been set for reference.		The line intervals in the D block on the screen are corrected. As shown in the figure to the left, the lines in the upper and lower sections move centering the respective D block in the same manner as with V - SIZE.

Note:

▷————◁ : Line which does not move at all.
▶————◀ : Line which hardly moves.
▷- - - - - - - -◁ : Line which does not move out of screen.

5.4 H, V - STATIC AND USER CONVERGENCE (Red and Blue only)

The H - and V - STATIC data in CONVER ADJ mode and the variable data of the user convergence are the same (i.e. the data value 0 of H- and V- STATIC corresponds to the center of the variable range of the user convergence, whose data value is also 0).

Therefore, when CONVER ADJ mode is released after adjusting H- and V- STATIC, the adjusted data values of H- and V- STATIC become the user-convergence values, maintaining the proper convergence setting on the screen.

Note: No telop indication is available for the user convergence values.

5.5 CONVERGENCE ADJUSTMENT PROCEDURE

- Supply a cross-hatch signal and perform the adjustment while observing the screen.
- The procedure shown here is a typical example. It may be applied in the most convenient way in actual practice.
- Before and after adjustment, check the horizontal and vertical sizes by observing the monoscope screen. If required, adjust the sizes by performing steps 3 and 4 in 4.4.2.
- When the deflection yoke has been replaced or removed to replace the CRT assembly, perform the following two adjustments before convergence adjustment.

(1)Adjust the orthogonality (inclination) of the vertical and horizontal lines.

For green lines, set V - SKEW (VR651) to the center. For the red and blue lines, set both the H- and V- SKEW values to 0.

Roughly adjust the orthogonality of the vertical and horizontal lines by turning the deflection yoke, and then finely adjust it through the respective SKEW controls. (The attention point in SKEW adjustment is the center lines on the screen.)

(2)Adjust the position of the center lines.

For the green lines, turn the centering magnet of the deflection yoke and set the horizontal and vertical center lines to the center of the screen.

For the red and blue lines, set the H- and V- STATIC values to 0 and roughly adjust by turning the centering magnet of the deflection yoke. Then fine-adjust by changing the H- and V- STATIC values within the range of 010 to - 010.

5.5.1 Green Adjustment

- Activate CONVER ADJ mode of FACTORY ADJ mode and display only the green lines on the screen.
- Use the controls in the convergence assembly.
- The green lines must be accurately adjusted as they will be the reference for subsequent red and blue adjustments.
- For information on blocks which are referred to in some Operation columns, see Fig. 5 - 6 and Fig. 5 - 10.
- Before adjustment, check that the green center vertical line is perfectly vertical. If not, turn the deflection yoke and fine - adjust with GV - SKEW.

Step No.	Adjustment Item		Adjustment Point	Adjustment Procedure
1	Center line adjustment	GV-SKEW	VR651	Adjust so that the center horizontal line of the screen is not leaned.
2		GV-BOW	VR652	Adjust so that the center horizontal line of the screen is straight.
3	Repeat steps 1 and 2 to obtain the optimum center horizontal lines.			
4	Distortion adjustment	GV-PIN	VR654	Adjust so that the horizontal lines in the E block of the screen are straight.
5		GH-PIN	VR655	Adjust so that the vertical lines in the B and C blocks on the screen are straight.
6	Lean adjustment	GV-KEY	VR653	Adjust so that the horizontal lines in the E block of the screen are not leaned.
7		GH-KEY	VR656	Adjust so that the vertical lines in the B and C blocks on the screen are not leaned.
8	Repeat steps 4 through 7 and then 1 through 7 to obtain the optimum lines.			

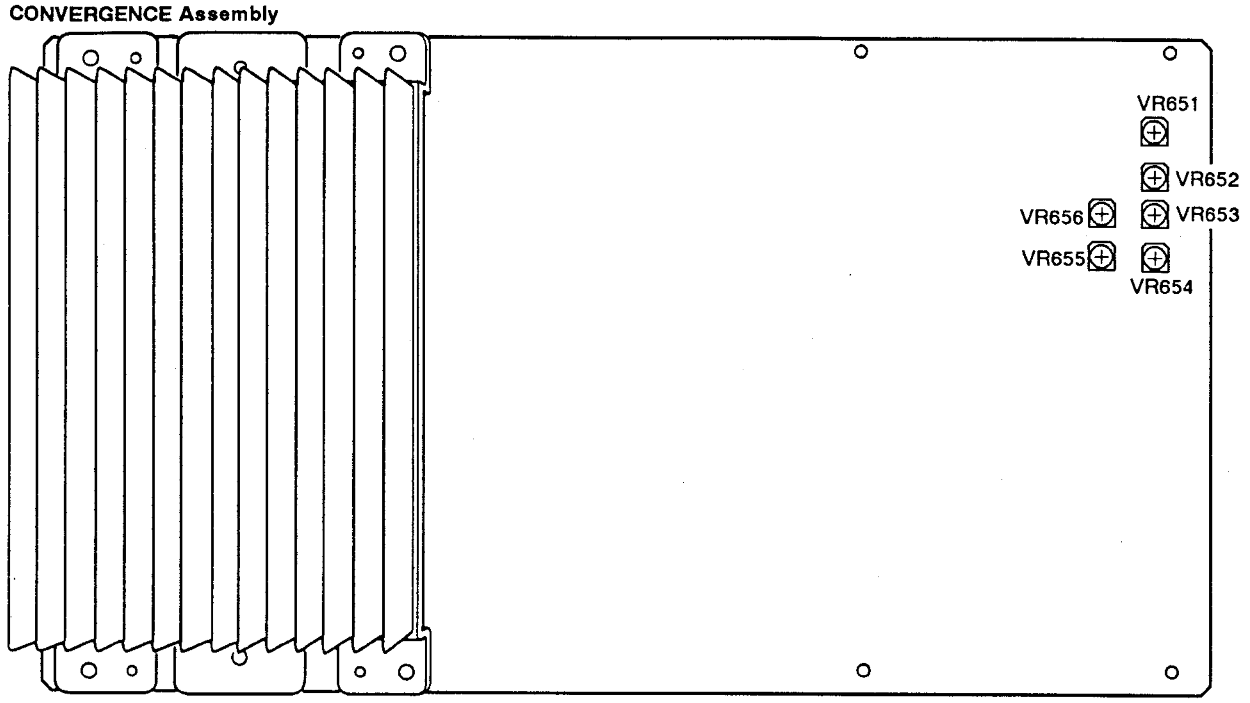


Fig. 5-14 CONVERGENCE Assembly

5.5.2 Red Adjustment

- Perform the red adjustment when the green adjustment is completed.
- Display the green and red lines only. Move the red lines to converge them in the green lines so that the lines are seen in yellow.
- For information on blocks which are referred to in some Operation columns, see Fig. 5 - 6 and Fig. 5 - 10.
- Before adjustment, check that the center vertical line and the center horizontal lines are at right angles to each other. If not, turn the deflection yoke and fine - adjust with RH - and RV - SKEW.

• Red Adjustment in the Horizontal Direction

•Activate CONVER ADJ mode in FACTORY ADJ mode and adjust with RH.

Step No.	Adjustment Item		Adjustment Point (Numeric button of the remote control unit)	Adjustment Procedure
1	Center line adjustment	RH-SKEW	①	Adjust so that the center vertical line of the screen is not leaned.
2		RH-BOW	②	Adjust so that the center vertical line of the screen is not distorted and is straight.
3		RH-4TH BOW		
4		RH-STATIC	⓪	Converge the center vertical line in the green vertical line. (Change the data value within the indication range of 010 to - 010. If it cannot be optimized, set the value to 0 and turn the centering magnet of the deflection yoke and fine-adjust with RH-STATIC.)
5	Repeat steps 1 to 4 to obtain the optimum center vertical line.			
6	Lean adjustment	RH-SUB KEY	③	Adjust so that the vertical lines in the B and C blocks of the screen are not leaned.
7		RH-KEY	④	
8	Repeat steps 6 and 7 to obtain vertical lines that are most perfectly vertical in the B and C blocks of the screen.			

Step No.	Adjustment Item		Adjustment Point (Numeric button of the remote control unit)	Adjustment Procedure
9	Distortion adjustment	RH-M S PIN	⑤	Adjust so that the vertical lines in the right and left sections of the screen are not distorted and are straight.
10		RH-SUB PIN		
11		RH-4 S PIN		
12		RH-MID PIN	⑥	
13		RH-PIN		
14		RH-4TH PIN		
15	Repeat steps 9 to 14 to obtain straight vertical lines in the right and left sections of the screen.			
16	Repeat steps 6 to 15 to obtain the optimum vertical lines in the right and left sections of the screen.			
17	Line intervals adjustment	RH-4TH LIN	⑦	Adjust the intervals of the vertical lines in the right and left sections of the screen and converge them in the green vertical lines.
18		RH-LIN		
19		RH-SIZE	⑧	
20		RH-SUB LIN	⑨	
21	Repeat steps 17 to 20 to obtain the optimum vertical lines in the right and left sections of the screen.			
22	Fine-adjust over the entire picture to obtain the optimum picture.			

● Red Adjustment in the Vertical Direction

•Activate CONVER ADJ mode in FACTORY ADJ mode and adjust with RV.

Step No.	Adjustment Item		Adjustment Point (Numeric button of the remote control unit)	Adjustment Procedure
1	Center line adjustment	RV-SKEW	①	Adjust so that the center horizontal line of the screen is not leaned.
2		RV-BOW	②	Adjust so that the center horizontal line of the screen is not distorted and is straight.
3		RV-STATIC	⓪	Converge the center horizontal line in the green horizontal line. (Change the data value within the indication range of 010 to -010. If it cannot be optimized, set the value to 0 and turn the centering magnet of the deflection yoke and fine-7adjust with RV-STATIC.)
4	Repeat steps 1 to 3 to obtain the optimum center horizontal line.			
5	Lean adjustment	RV-MID KEY	④	Adjust so that the horizontal lines in the D and E blocks of the screen are not leaned.
6		RV-SUB KEY	③	
7		RV-KEY	④	
8	Repeat steps 5 and 6 to obtain the horizontal lines that are most perfectly horizontal in the D and E blocks of the screen.			
9	Distortion adjustment	RV-SUB PIN	⑤	Adjust so that the horizontal lines in the upper and lower sections of the screen are not distorted and are straight.
10		RV-MID PIN	⑥	
11		RV-PIN		
12		RV-S C PIN	⑤	
13		RV-4TH PIN	⑥	
14	Repeat steps 9 to 13 to obtain straight horizontal lines in the upper and lower sections of the screen.			
15	Repeat steps 5 to 14 to obtain the optimum horizontal lines in the upper and lower sections of the screen.			
16	Line intervals adjustment	RV-LIN	⑦	Adjust the intervals of the horizontal lines in the D and E blocks of the screen and converge them in the green horizontal lines.
17		RV-SIZE	⑧	
18		RV-SUB LIN	⑨	
19	Repeat steps 16 to 18 to obtain the optimum horizontal lines in the upper and lower sections of the screen.			
20	Fine-adjust over the entire picture to obtain the optimum picture.			

5.5.3 Blue Adjustment

- Perform the blue adjustment when the green adjustment is completed.
- Display the green and blue lines only. Move the blue lines to converge them in the reference green lines so that the lines are seen in cyan.
- The adjustment items are shown below.
  Adjustment operations are the same as those in 5.5.2 Red Adjustment.

- **Blue Adjustment in the Horizontal Direction**
  Activate CONVER ADJ mode in FACTORY ADJ mode and adjust with BH.

Step No.	Adjustment Item		Adjustment Point (Numeric button of the remote control unit)
1	Center line adjustment	BH-SKEW	①
2		BH-BOW	②
3		BH-4TH BOW	
4		BH-STATIC	⓪
5	Lean adjustment	BH-SUB KEY	③
6		BH-KEY	④
7	Distortion adjustment	BH-M S PIN	⑤
8		BH-SUB PIN	
9		BH-4 S PIN	
10		BH-MID PIN	⑥
11		BH-PIN	
12		BH-4TH PIN	
13	Line intervals adjustment	BH-4TH LIN	⑦
14		BH-LIN	
15		BH-SIZE	⑧
16		BH-SUB LIN	⑨

- **Blue Adjustment in the Vertical Direction**
  Activate CONVER ADJ mode in FACTORY ADJ mode and adjust with BV.

Step No.	Adjustment Item		Adjustment Point (Numeric button of the remote control unit)
1	Center line adjustment	BV-SKEW	①
2		BV-BOW	②
3		BV-STATIC	⓪
4	Lean adjustment	BV-MID KEY	④
5		BV-SUB KEY	③
6		BV-KEY	④
7	Distortion adjustment	BV-SUB PIN	⑤
8		BV-MID PIN	⑥
9		BV-PIN	
10		BV-S C PIN	⑤
11		BV-4TH PIN	⑥
12	Line intervals adjustment	BV-LIN	⑦
13		BV-SIZE	⑧
14		BV-SUB LIN	⑨

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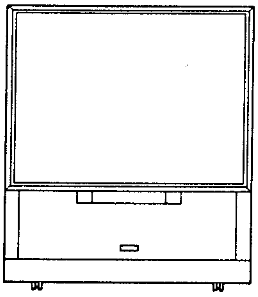
The Art of Entertainment

Service Manual



• SD-P5065-K/KUX1C

ORDER NO.
ARP2564

PROJECTION MONITOR RECEIVER

'92 MODEL ELECTRICAL INFORMATION

APPLICABLE MODEL

- KUX1C TYPE

SD-P5065-K
SD-P5065-Q
SD-P5064-K
SD-P5064-Q
SD-P5062-Q
SD-P4565-K
SD-P4565-Q
SD-P4564-K
SD-P4564-Q
SD-P4562-Q
SD-P4561-Q
SD-P4063-K
SD-P5565-K
SD-P5564-K
SD-P5564-Q

- This service manual is applicable to above models.
- For Mechanical information, refer to Service Manual ARP2565.
  For Adjustment information, refert to Service Manual ARP2566.
- This manual is combined with operating instructions (from page 183).

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'92 PROJECTION MONITOR RECEIVER ELECTRICAL INFORMATION

The '92 models of the Projection Monitor Receiver are listed below.

Type	Family	Model				Power Requirement
		50 " Size	45 " Size	55 " Size	40 " Size	
KUX1C	65	▨ SD-P5065-K ▨ SD-P5065-Q	▨ SD-P4565-K ▨ SD-P4565-Q	▨ SD-P5565-K	—	AC 120V only
	67	SD-P5067-Q	—	SD-P5567-Q	—	
	64	▨ SD-P5064-K ▨ SD-P5064-Q	▨ SD-P4564-K ▨ SD-P4564-Q	▨ SD-P5564-K ▨ SD-P5564-Q	—	
	63	—	—	—	▨ SD-P4063-K	
	62	SD-P5062-K ▨ SD-P5062-Q	SD-P4562-K ▨ SD-P4562-Q	—	—	
	61	—	▨ SD-P4561-Q	—	SD-P4061-K	
	PRO	PRO-96	PRO-76	PRO-106	—	
S	—	SD-P5006	—	—	SD-P4006	AC 110V, 120V, 220V, 240V (switchable)
KCX1C	65	SD-P5065-K	—	SD-P5565-K	—	AC 120V only
	63	—	—	—	SD-P4063-K	
	62	—	SD-P4562-K	—	—	

Note : ▨ portion models are applicable to this manual.

MANUAL CONFIGURATION

Two separate service-manual volumes, Electrical Information (ARP2564) and Mechanical Information (ARP2565) are provided for the applicable models, as listed on their front covers.

For other models, these two volumes are joined as a single manual.

For adjustments, Adjustment Information (ARP2566) covers all the 92' models.

Electrical Information (ARP2564)

This volume includes schematic diagrams, PCB and PCB parts lists and a description of the remote control unit.

The schematic diagrams, PCB and PCB parts lists are arranged in section by name of the PCB assembly. The parts numbers for the assemblies (PCB and CRT) used in each model are shown in 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS at the end of the Electrical Information.

For connection of the assemblies, refer to the overall wiring diagram. (In the schematic diagrams, PCB and PCB parts lists, only the assembly names and parts numbers are indicated.)

For the information on the remote control unit, refer to 7. REMOTE CONTROL UNIT after checking in the list.

Mechanical Information (ARP2565)

This volume includes exploded views, packing information and parts lists.

All other items are common among the 40", 45", 50" and 55" models.

- **50", 45" and 55" models**

Based on the exploded view and packing of the SD-P5065-K /KUX1C, the other models are described in comparison tables.

The remote control unit, PCB assembly and CRT assembly are not included in these comparison tables. Refer to 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS in Electrical Information.

- **40" models**

Exploded views and packing information are provided for the SD - P4063 - K / KUX1C.

Adjustment Information (ARP2566)

This volume covers all the '92 models of the Projection Monitor Receiver.

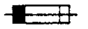
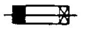
Note

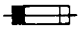
- The descriptions in Electrical Information, Mechanical Information and Adjustment Information are arranged according to the screen size or family. When no destination (KUX1C, KCX1C and S types) is specified, that size or family is intended for all destinations (types).
- For the family models, refer to 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS in Electrical Information.

  Example : SD - P5065 - K
  └ 65 Family

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible  (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1. SAFETY PRECAUTIONS

NOTICE:Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.
The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled.
   Keep picture tube away from the body while handling.
2. When service is required, even though the PROJECTION MONITOR RECEIVER an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress.
   Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components.
   Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
   Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacturer has become defective, or inadvertently defeated during servicing.

Therefore, the following checks should be performed for the continued protection of the customer and service technician.

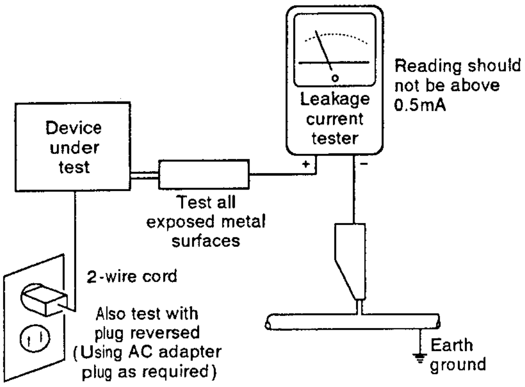
Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester(DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part(input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on.

Using a "Leakage Current Tester(Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet(input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground(water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
+
-
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture(video muting is being applied)when no signal is input, high voltage of this set during operation is less than 30.9kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.9kV in the status of the black picture when no signal is input.

To measure H.V. use a high impedance H.V. meter.

Connect (-) to earth and (+) to the FBT anode cable connector.

(Refer to page 18 in Adjustment information.)

X-radiation

TUBE:The primary source of X-radiation in this set is the picture tube.

For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type.

The picture tube(CRT assembly R, G, B)used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (See on page 6). Accordingly, when the current in flowing to the picture tube(CRT assembly R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube(CRT assembly R, G, B)itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assembly with the POWER SUPPLY assembly in the manner in which has been adjusted to perform normal operation.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

■ Charged section

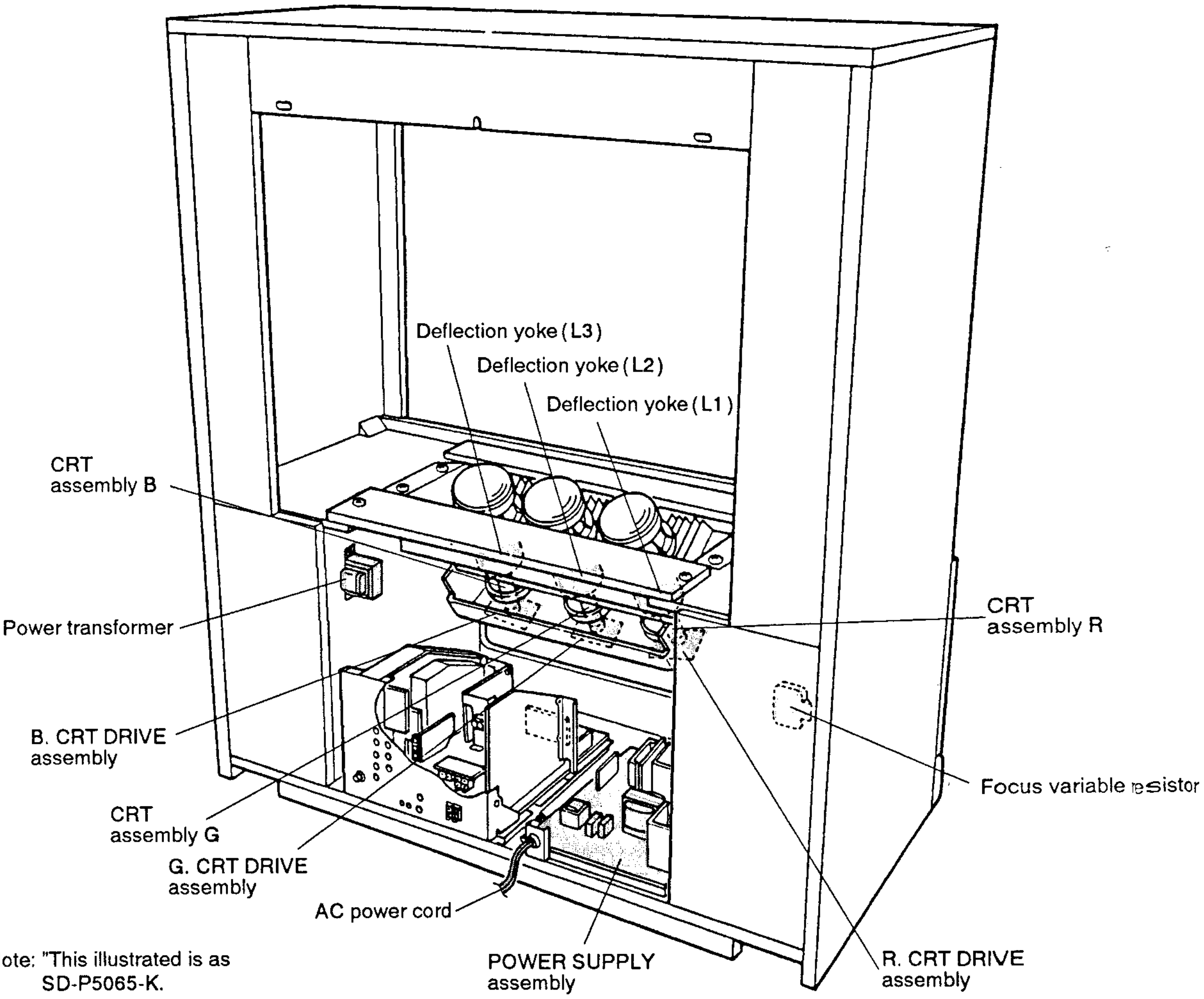
The circuit in which the commercial AC power is used as it is without passing through the power supply transformer. If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. In this case, be sure to connect the set via an insulated transformer and supply the current.

■ Charged section (Power supply primary side)

1. The primary side of the POWER SUPPLY assembly
2. AC power cord
3. Power transformer

▨ part is the charged section.

░ part is the high voltage generating points other than the charged section.


Deflection yoke (L3)
Deflection yoke (L2)
Deflection yoke (L1)
CRT assembly B
Power transformer
B. CRT DRIVE assembly
CRT assembly G
G. CRT DRIVE assembly
AC power cord
POWER SUPPLY assembly
CRT assembly R
Focus variable resistor
R. CRT DRIVE assembly

Note: "This illustrated is as SD-P5065-K.

Fig. 3-1 Charged section and high voltage generating point

High voltage generating point

The place where voltage of over 100V is generated.

1. Charged section	
2. POWER SUPPLY assembly (including FBT)	(30.5kV, 135V)
3. R. CRT DRIVE assembly	(10.5kV)
4. G. CRT DRIVE assembly	(10.5kV)
5. B. CRT DRIVE assembly	(10.5kV)
6. CRT assembly R	(30.5kV)
7. CRT assembly G	(30.5kV)
8. CRT assembly B	(30.5kV)
9. Focus variable resistor (VR1)	(10.5kV)
10. Deflection yokes (L1, L2, and L3)	(Approx. 1100V at peak)

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X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT assembly R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows :When the current flows to the CRT assembly R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT assembly R, G, B. Accordingly, never supply current only to the CRT assembly R, G, B.

  Moreover, the anode voltage of the CRT assembly R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is higher than 30.9kV). Be sure to drive the CRT assembly R, G, B by using a completely functional POWER SUPPLY assembly and V-AMP assembly which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT assembly R, G, B(Do not dismantle CRT assemblies under any circumstances).
2. Each Lens assemblies

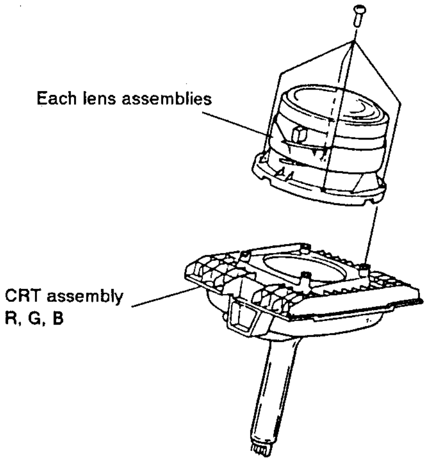

Fig. 3-2 Component parts for X-ray protection

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NOTE :
- The schematic and PCB diagrams are arranged in section by name of the PCB assembly. The parts numbers for the PCB assemblies used in each model are shown in section 8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS.

NOTE OF THE SCHEMATIC DIAGRAM

Note: (Type 5)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance:(F):±1%, (G):±2%, (K):±10%, (M):±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF) /voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.

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LECTRICAL INFORMATION

5. COILS:
Unit: m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
:Measuring condition is mentioned in each schematic diagrams.

7. OTHERS

- ➡ : Signal route.
- ⊘ : Adjustment point.
- ▼(Red) : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by ☆ are important parts which relate to X-rays radiation. If any of these parts needs to be replaced, always replace with specified parts.
- Parts marked by × are important parts which relate to X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by × is replaced, there is danger of being exposed to X-rays.

8. SIGNAL ROUTES

▨ CHARGED SECTION
━━━ VIDEO & Y SIGNAL ROUTE
─── COLOR SIGNAL ROUTE
── ‒ ── AUDIO IF ROUTE
── ─ ── AUDIO L CH ROUTE
▪ ▪ ▪ ▪ ▪ H. DEFLECTION ROUTE
▫ ▫ ▫ ▫ ▫ V. DEFLECTION ROUTE
━━ ━ ━━ PINP SUB PICTURE (LD INPUT)
░ R. SIGNAL ROUTE
░ G. SIGNAL ROUTE
█ B. SIGNAL ROUTE

9. SWITCHES (Underline indicates switch position):

TUNER–VIDEO ASSEMBLY
S301 : SP SELECT INT — EXT (AWV1255 ONLY)

W FRONT CONTROL ASSEMBLY (AWZ4189) and
FRONT CONTROL ASSEMBLY (AWZ4232)
S551 : POWER
S552 : PRESET MENU ON/OFF
S553 : DIGITAL PINP INPUT
S554 : DIGITAL PINP ON/OFF
S555 : SET ┐
S556 : SELECT / ADJ + │ PRESET MENU
S557 : SELECT / ADJ − ┘
S558 : FACTORY ADJ
S559 : RETURN
S560 : STD / AV MEM
S561 : VOLUME +
S562 : VOLUME −
S563 : CHANNEL +
S564 : CHANNEL −
S565 : INPUT SELECTOR
S566 : DOLBY MODE

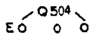
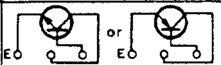
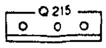
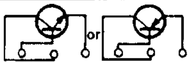
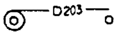
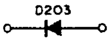
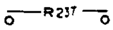
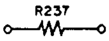
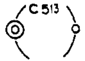
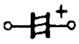
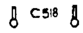
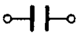
FRONT CONTROL ASSEMBLY (AWZ4241)
S551 : POWER
S552 : ON/OFF ┐
S555 : SET │ PRESET MENU
S556 : SELECT / ADJ + │
S557 : SELECT / ADJ − ┘
S558 : FACTORY ADJ
S559 : RETURN
S561 : VOLUME +
S562 : VOLUME −
S563 :CHANNEL +
S564 : CHANNEL −

POWER AMP ASSEMBLY (AWZ4193)
S501 : FRONT SPEAKER SELECTOR INT — EXT
S502 : INT SPEAKER SELECTOR INT — EXT
S503 : CENTER SPEAKER SELECTOR INT — EXT

NOTE OF THE PCB DIAGRAMS

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

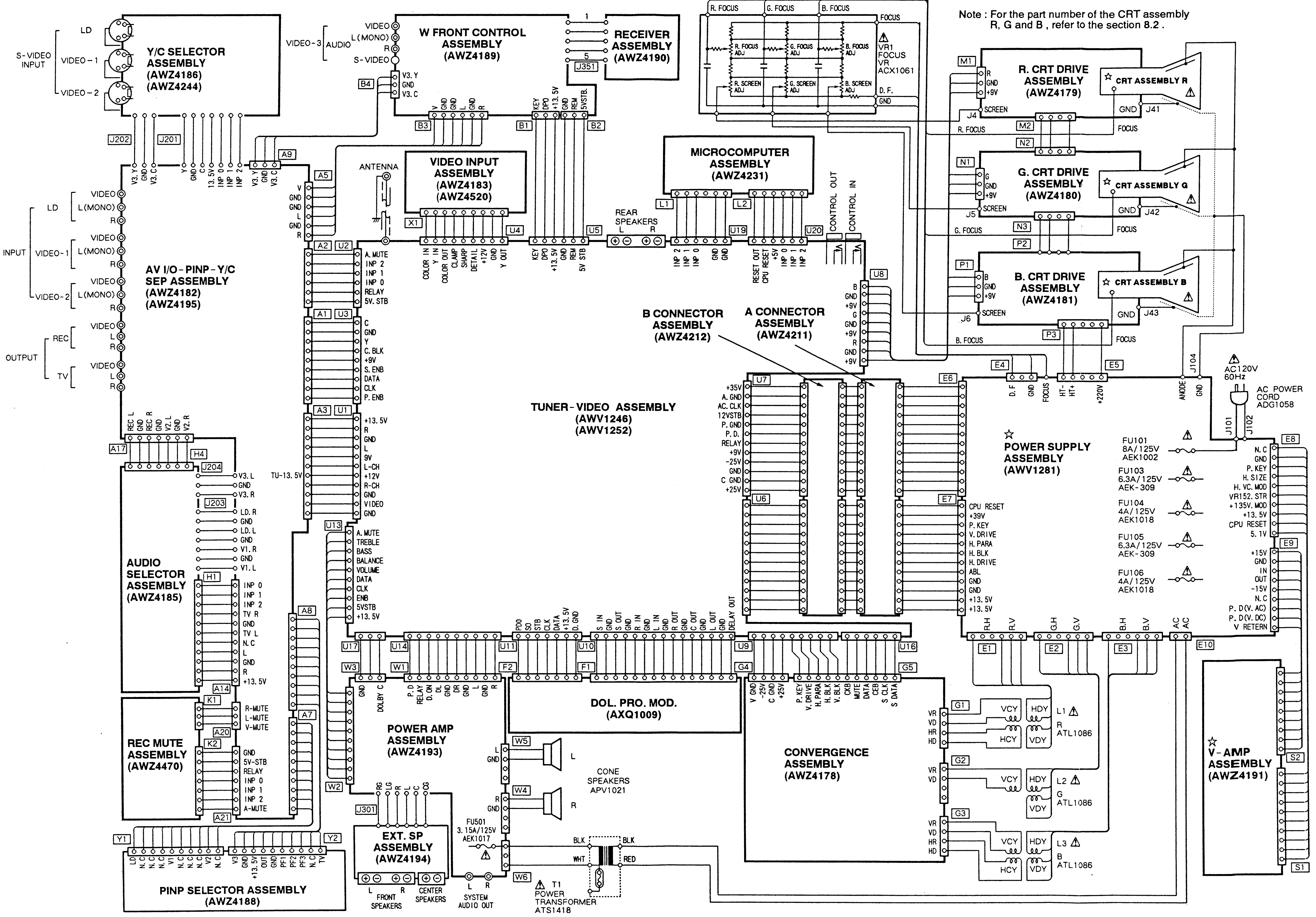
Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with◎(double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

4.1 OVERALL WIRING DIAGRAMS

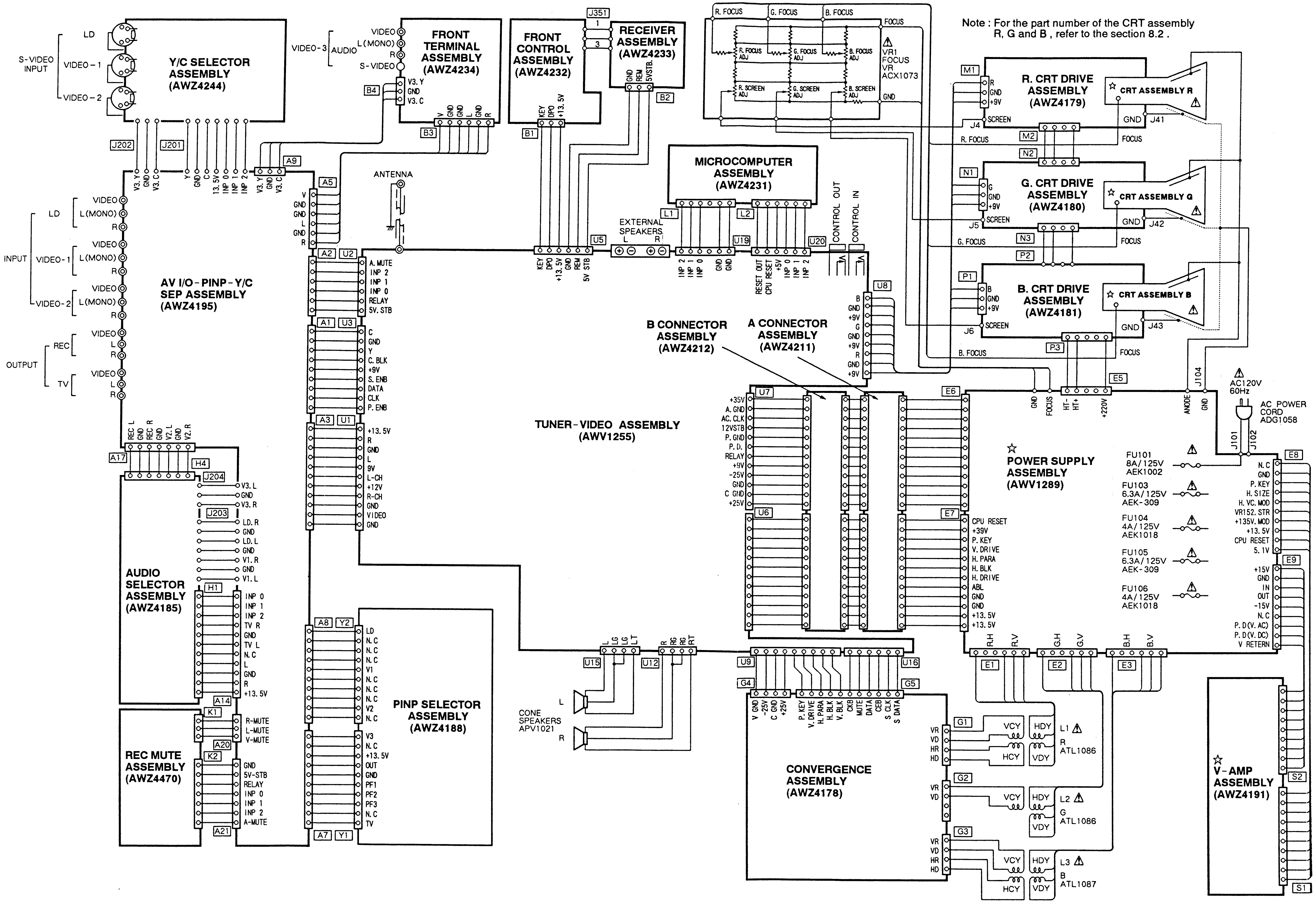
(1) SD-P5065-K, SD-P5065-Q, SD-P5064-K, SD-P5064-Q, SD-P4565-K, SD-P4565-Q, SD-P4564-K, SD-P4564-Q, SD-P5565-K, SD-P5564-K and SD-P5564-Q/KUX1C



Note : For the part number of the CRT assembly R, G and B , refer to the section 8.2 .

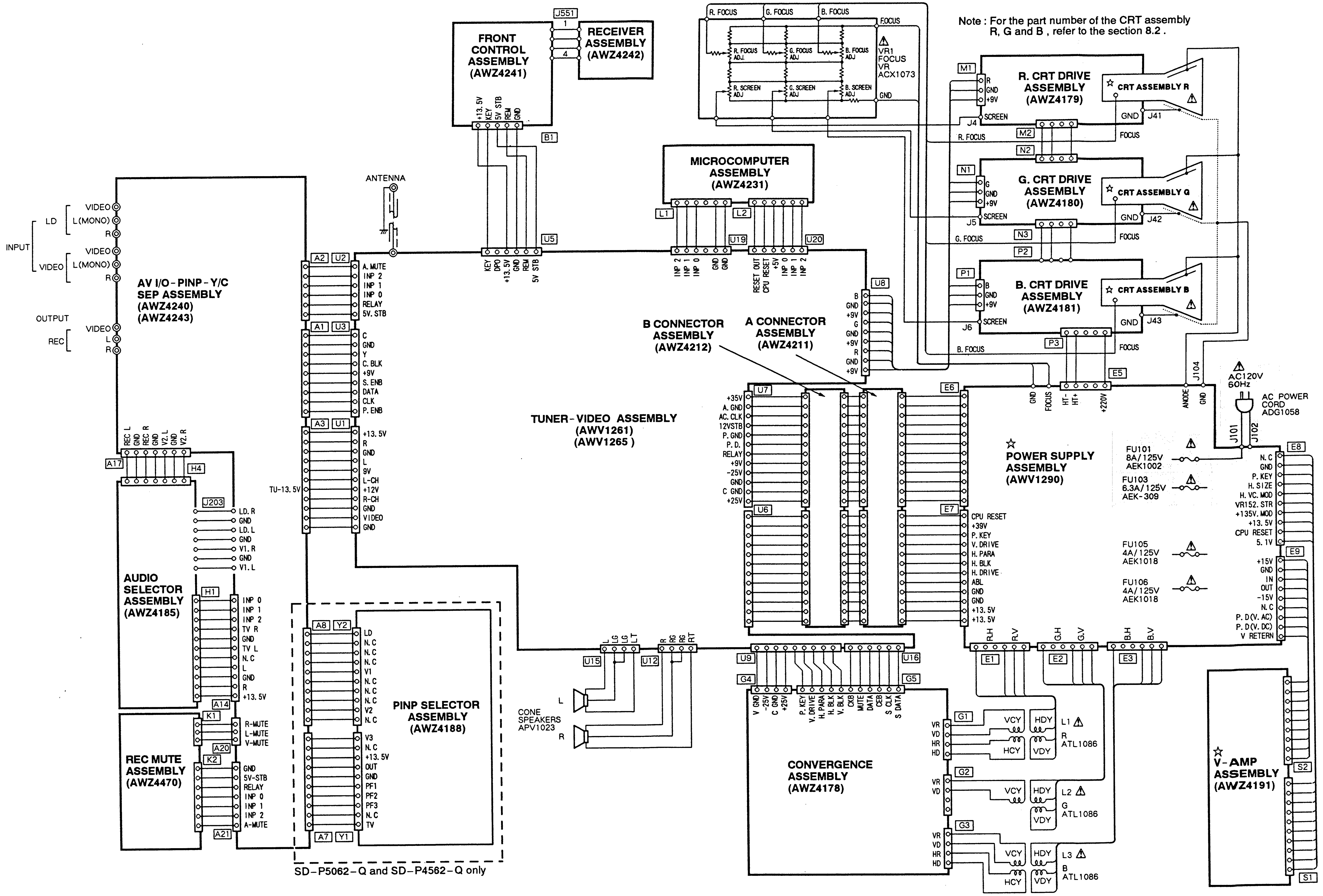
Y/C SELECTOR ASSEMBLY (AWZ4186) (AWZ4244)
S-VIDEO INPUT
LD
VIDEO-1
VIDEO-2
J202
J201
W FRONT CONTROL ASSEMBLY (AWZ4189)
VIDEO-3
VIDEO
L(MONO)
R
AUDIO
S-VIDEO
V3. Y
GND
V3. C
B4
B3
B1
B2
RECEIVER ASSEMBLY (AWZ4190)
J351
R. FOCUS
G. FOCUS
B. FOCUS
FOCUS
VR1 FOCUS VR ACX1061
R. SCREEN ADJ
G. SCREEN ADJ
B. SCREEN ADJ
D. F.
GND
R. CRT DRIVE ASSEMBLY (AWZ4179)
G. CRT DRIVE ASSEMBLY (AWZ4180)
B. CRT DRIVE ASSEMBLY (AWZ4181)
☆ CRT ASSEMBLY R
☆ CRT ASSEMBLY G
☆ CRT ASSEMBLY B
M1
M2
N1
N2
N3
P1
P2
P3
J4
J5
J6
J41
J42
J43
SCREEN
+9V
R. FOCUS
G. FOCUS
B. FOCUS
VIDEO INPUT ASSEMBLY (AWZ4183) (AWZ4520)
ANTENNA
X1
U4
U5
MICROCOMPUTER ASSEMBLY (AWZ4231)
L1
L2
REAR SPEAKERS
U19
U20
CONTROL OUT
CONTROL IN
U8
A9
A5
A2
U2
A1
U3
A3
U1
AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4182) (AWZ4195)
INPUT
OUTPUT
REC
TV
A.MUTE
INP 2
INP 1
INP 0
RELAY
5V. STB
C. BLK
S. ENB
DATA
CLK
P. ENB
TU-13. 5V
B CONNECTOR ASSEMBLY (AWZ4212)
A CONNECTOR ASSEMBLY (AWZ4211)
TUNER-VIDEO ASSEMBLY (AWV1246) (AWV1252)
U7
U6
E6
E7
E4
E5
D.F
FOCUS
HT-
HT+
+220V
ANODE
J104
J101
J102
AC120V 60Hz
AC POWER CORD ADG1058
☆ POWER SUPPLY ASSEMBLY (AWV1281)
FU101 8A/125V AEK1002
FU103 6.3A/125V AEK-309
FU104 4A/125V AEK1018
FU105 6.3A/125V AEK-309
FU106 4A/125V AEK1018
E8
E9
E1
E2
E3
E10
CPU RESET
+39V
P. KEY
V. DRIVE
H. PARA
H. BLK
H. DRIVE
ABL
A17
H4
J204
J203
AUDIO SELECTOR ASSEMBLY (AWZ4185)
H1
A14
K1
REC MUTE ASSEMBLY (AWZ4470)
A20
K2
A21
U13
TREBLE
BASS
BALANCE
VOLUME
A8
A7
U17
U14
U11
U10
U9
U16
W3
W1
F2
F1
G4
G5
DOL. PRO. MOD. (AXQ1009)
POWER AMP ASSEMBLY (AWZ4193)
W2
J301
W5
W4
W6
CONE SPEAKERS APV1021
CONVERGENCE ASSEMBLY (AWZ4178)
G1
G2
G3
VCY
HCY
HDY
VDY
L1
R ATL1086
L2
G ATL1086
L3
B ATL1086
☆ V-AMP ASSEMBLY (AWZ4191)
S2
S1
Y1
Y2
PINP SELECTOR ASSEMBLY (AWZ4188)
EXT. SP ASSEMBLY (AWZ4194)
FRONT SPEAKERS
CENTER SPEAKERS
SYSTEM AUDIO OUT
FU501 3.15A/125V AEK1017
T1 POWER TRANSFORMER ATS1418
BLK
WHT
RED

(2) SD-P4063-K/KUX1C


Note : For the part number of the CRT assembly R, G and B , refer to the section 8.2 .
Y/C SELECTOR ASSEMBLY (AWZ4244)
S-VIDEO INPUT
LD
VIDEO-1
VIDEO-2
J202
J201
FRONT TERMINAL ASSEMBLY (AWZ4234)
VIDEO-3
AUDIO
VIDEO
L(MONO)
R
S-VIDEO
V3. Y
GND
V3. C
B4
B3
FRONT CONTROL ASSEMBLY (AWZ4232)
B1
KEY
DPO
+13.5V
J351
RECEIVER ASSEMBLY (AWZ4233)
GND
REM
5VSTB.
B2
R. FOCUS
G. FOCUS
B. FOCUS
FOCUS
R. FOCUS ADJ
G. FOCUS ADJ
B. FOCUS ADJ
R. SCREEN ADJ
G. SCREEN ADJ
B. SCREEN ADJ
VR1 FOCUS VR ACX1073
GND
R. CRT DRIVE ASSEMBLY (AWZ4179)
☆ CRT ASSEMBLY R
G. CRT DRIVE ASSEMBLY (AWZ4180)
☆ CRT ASSEMBLY G
B. CRT DRIVE ASSEMBLY (AWZ4181)
☆ CRT ASSEMBLY B
M1
M2
N1
N2
N3
P1
P2
P3
J4
J5
J6
J41
J42
J43
SCREEN
R
G
B
GND
+9V
FOCUS
R. FOCUS
G. FOCUS
B. FOCUS
MICROCOMPUTER ASSEMBLY (AWZ4231)
L1
L2
CONTROL OUT
CONTROL IN
EXTERNAL SPEAKERS
L
R
ANTENNA
A9
A5
A2
U2
A1
U3
A3
U1
U5
U19
U20
U8
AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4195)
INPUT
OUTPUT
REC
TV
A. MUTE
INP 2
INP 1
INP 0
RELAY
5V. STB
C
Y
C. BLK
S. ENB
DATA
CLK
P. ENB
9V
L-CH
+12V
R-CH
VIDEO
RESET OUT
CPU RESET
+5V
B CONNECTOR ASSEMBLY (AWZ4212)
A CONNECTOR ASSEMBLY (AWZ4211)
TUNER-VIDEO ASSEMBLY (AWV1255)
U7
U6
E6
E7
E5
+35V
A. GND
AC. CLK
12VSTB
P. GND
P. D.
-25V
C GND
+25V
CPU RESET
+39V
P. KEY
V. DRIVE
H. PARA
H. BLK
H. DRIVE
ABL
+13.5V
HT-
HT+
+220V
ANODE
J104
J101
J102
AC120V 60Hz
AC POWER CORD ADG1058
☆ POWER SUPPLY ASSEMBLY (AWV1289)
FU101 8A/125V AEK1002
FU103 6.3A/125V AEK-309
FU104 4A/125V AEK1018
FU105 6.3A/125V AEK-309
FU106 4A/125V AEK1018
E8
N.C
P. KEY
H. SIZE
H. VC. MOD
VR152. STR
+135V. MOD
5. 1V
E9
+15V
IN
OUT
-15V
P. D(V. AC)
P. D(V. DC)
V RETERN
E1
E2
E3
R.H
R.V
G.H
G.V
B.H
B.V
A17
H4
J204
J203
V3. L
V3. R
LD. R
LD. L
V1. R
V1. L
REC L
REC R
V2. L
V2. R
AUDIO SELECTOR ASSEMBLY (AWZ4185)
H1
TV R
TV L
A14
K1
R-MUTE
L-MUTE
V-MUTE
A20
K2
REC MUTE ASSEMBLY (AWZ4470)
5V-STB
A21
A8
Y2
V1
V2
V3
OUT
PF1
PF2
PF3
TV
PINP SELECTOR ASSEMBLY (AWZ4188)
A7
Y1
U15
U12
LL
LG
LT
RR
RG
RT
CONE SPEAKERS APV1021
U9
U16
G4
G5
V GND
-25V
C GND
+25V
MUTE
CKB
CEB
S CLK
S DATA
CONVERGENCE ASSEMBLY (AWZ4178)
G1
G2
G3
VR
VD
HR
HD
VCY
HCY
HDY
VDY
L1 R ATL1086
L2 G ATL1086
L3 B ATL1087
☆ V-AMP ASSEMBLY (AWZ4191)
S1
S2

(3) SD-P5062-Q, SD-P4562-Q and SD-P4561-Q/KUX1C

Note : For the part number of the CRT assembly R, G and B , refer to the section 8.2 .


FRONT CONTROL ASSEMBLY (AWZ4241)
RECEIVER ASSEMBLY (AWZ4242)
J551
B1
+13.5V
KEY
5V STB
REM
GND
MICROCOMPUTER ASSEMBLY (AWZ4231)
L1
L2
U19
U20
INP 2
INP 1
INP 0
RESET OUT
CPU RESET
+5V
R. FOCUS
G. FOCUS
B. FOCUS
FOCUS
R. FOCUS ADJ.
G. FOCUS ADJ
B. FOCUS ADJ
R. SCREEN ADJ
G. SCREEN ADJ
B. SCREEN ADJ
VR1 FOCUS VR ACX1073
R. CRT DRIVE ASSEMBLY (AWZ4179)
G. CRT DRIVE ASSEMBLY (AWZ4180)
B. CRT DRIVE ASSEMBLY (AWZ4181)
☆ CRT ASSEMBLY R
☆ CRT ASSEMBLY G
☆ CRT ASSEMBLY B
M1
M2
N1
N2
N3
P1
P2
P3
J4
J5
J6
J41
J42
J43
SCREEN
ANTENNA
U5
U2
U3
U1
A2
A1
A3
A. MUTE
INP 2
INP 1
INP 0
RELAY
5V. STB
C
GND
Y
C. BLK
+9V
S. ENB
DATA
CLK
P. ENB
+13.5V
R
L
9V
L-CH
+12V
R-CH
VIDEO
TU-13.5V
INPUT
LD
VIDEO
L(MONO)
R
OUTPUT
REC
AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4240) (AWZ4243)
A17
H4
REC L
REC R
V2.L
V2.R
J203
LD. R
LD. L
V1. R
V1. L
AUDIO SELECTOR ASSEMBLY (AWZ4185)
H1
INP 0
INP 1
INP 2
TV R
TV L
N.C
A14
K1
R-MUTE
L-MUTE
V-MUTE
A20
K2
REC MUTE ASSEMBLY (AWZ4470)
5V-STB
A-MUTE
A21
TUNER-VIDEO ASSEMBLY (AWV1261) (AWV1265)
B CONNECTOR ASSEMBLY (AWZ4212)
A CONNECTOR ASSEMBLY (AWZ4211)
U8
U7
U6
E6
E7
+35V
A. GND
AC. CLK
12VSTB
P. GND
P. D.
RELAY
-25V
C GND
+25V
A8
Y2
A7
Y1
V1
V2
V3
OUT
PF1
PF2
PF3
TV
PINP SELECTOR ASSEMBLY (AWZ4188)
SD-P5062-Q and SD-P4562-Q only
U15
U12
LG
LT
RG
RT
CONE SPEAKERS APV1023
U9
U16
G4
G5
V GND
P. KEY
V. DRIVE
H. PARA
H. BLK
V. BLK
CKB
MUTE
CEB
S CLK
S DATA
CONVERGENCE ASSEMBLY (AWZ4178)
G1
G2
G3
VR
VD
HR
HD
VCY
HCY
HDY
VDY
L1 R ATL1086
L2 G ATL1086
L3 B ATL1086
☆ POWER SUPPLY ASSEMBLY (AWV1290)
E5
HT-
HT+
+220V
J104
ANODE
AC120V 60Hz
AC POWER CORD ADG1058
J101
J102
FU101 8A/125V AEK1002
FU103 6.3A/125V AEK-309
FU105 4A/125V AEK1018
FU106 4A/125V AEK1018
CPU RESET
+39V
H. DRIVE
ABL
E8
H. SIZE
H. VC. MOD
VR152. STR
+135V. MOD
5. 1V
E9
+15V
IN
-15V
P. D(V. AC)
P. D(V. DC)
V RETERN
E1
E2
E3
R.H
R.V
G.H
G.V
B.H
B.V
☆ V-AMP ASSEMBLY (AWZ4191)
S2
S1

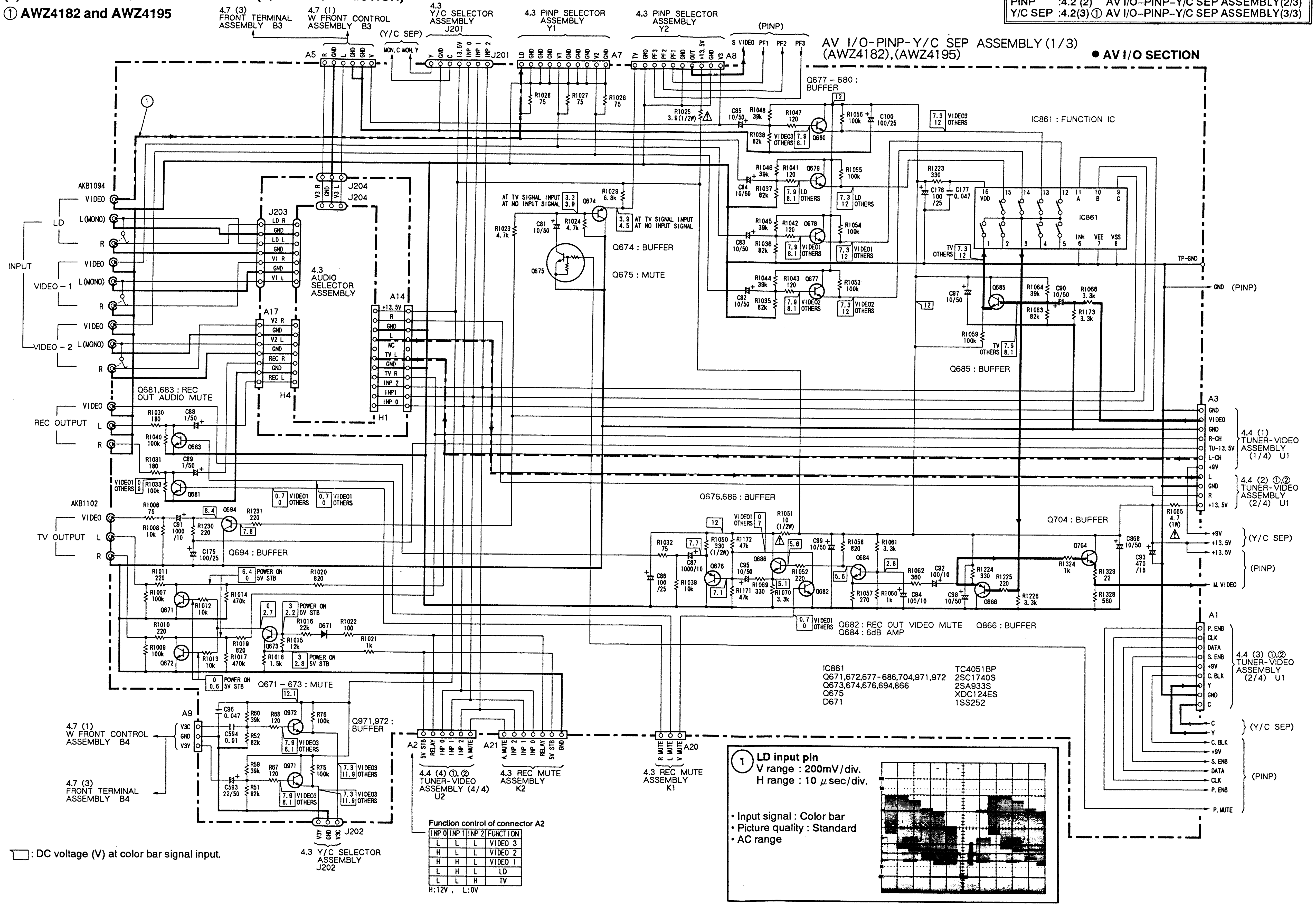
4.2 AV I/O-PINP-Y/C SEP ASSEMBLY

(1) AV I/O-PINP-Y/C SEP ASSEMBLY (1/3 : AV I/O SECTION)

① AWZ4182 and AWZ4195

Note:Abbreviation listed indicate circuit connections.

PINP	:4.2 (2) AV I/O-PINP-Y/C SEP ASSEMBLY(2/3)
Y/C SEP	:4.2(3) ① AV I/O-PINP-Y/C SEP ASSEMBLY(3/3)



4.7 (3) FRONT TERMINAL ASSEMBLY B3
4.7 (1) W FRONT CONTROL ASSEMBLY B3
4.3 Y/C SELECTOR ASSEMBLY J201
4.3 PINP SELECTOR ASSEMBLY Y1
4.3 PINP SELECTOR ASSEMBLY Y2
(Y/C SEP)
(PINP)
AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) (AWZ4182),(AWZ4195)
● AV I/O SECTION
A5
J201
A7
A8
①
Q677 – 680 : BUFFER
IC861 : FUNCTION IC
IC861
AKB1094
INPUT
LD
VIDEO-1
VIDEO-2
VIDEO
L(MONO)
R
J204
J203
4.3 AUDIO SELECTOR ASSEMBLY
A14
A17
H4
H1
Q674 : BUFFER
Q675 : MUTE
Q685 : BUFFER
GND (PINP)
REC OUTPUT
Q681,683 : REC OUT AUDIO MUTE
AKB1102
TV OUTPUT
Q694 : BUFFER
Q676,686 : BUFFER
Q704 : BUFFER
A3
4.4 (1) TUNER-VIDEO ASSEMBLY (1/4) U1
4.4 (2) ①,② TUNER-VIDEO ASSEMBLY (2/4) U1
(Y/C SEP)
(PINP)
M. VIDEO
A1
4.4 (3) ①,② TUNER-VIDEO ASSEMBLY (2/4) U1
Q671 – 673 : MUTE
A9
Q971,972 : BUFFER
4.7 (1) W FRONT CONTROL ASSEMBLY B4
4.7 (3) FRONT TERMINAL ASSEMBLY B4
A2
A21
A20
4.4 (4) ①, ② TUNER-VIDEO ASSEMBLY (4/4) U2
4.3 REC MUTE ASSEMBLY K2
4.3 REC MUTE ASSEMBLY K1
J202
4.3 Y/C SELECTOR ASSEMBLY J202
Q682 : REC OUT VIDEO MUTE
Q684 : 6dB AMP
Q866 : BUFFER

IC861	TC4051BP
Q671,672,677-686,704,971,972	2SC1740S
Q673,674,676,694,866	2SA933S
Q675	XDC124ES
D671	1SS252

Function control of connector A2

INP 0	INP 1	INP 2	FUNCTION
L	L	L	VIDEO 3
H	L	L	VIDEO 2
H	H	L	VIDEO 1
L	H	L	LD
L	L	H	TV

H:12V , L:0V

① LD input pin
V range : 200mV/div.
H range : 10 µsec/div.

- Input signal : Color bar
- Picture quality : Standard
- AC range

▭: DC voltage (V) at color bar signal input.

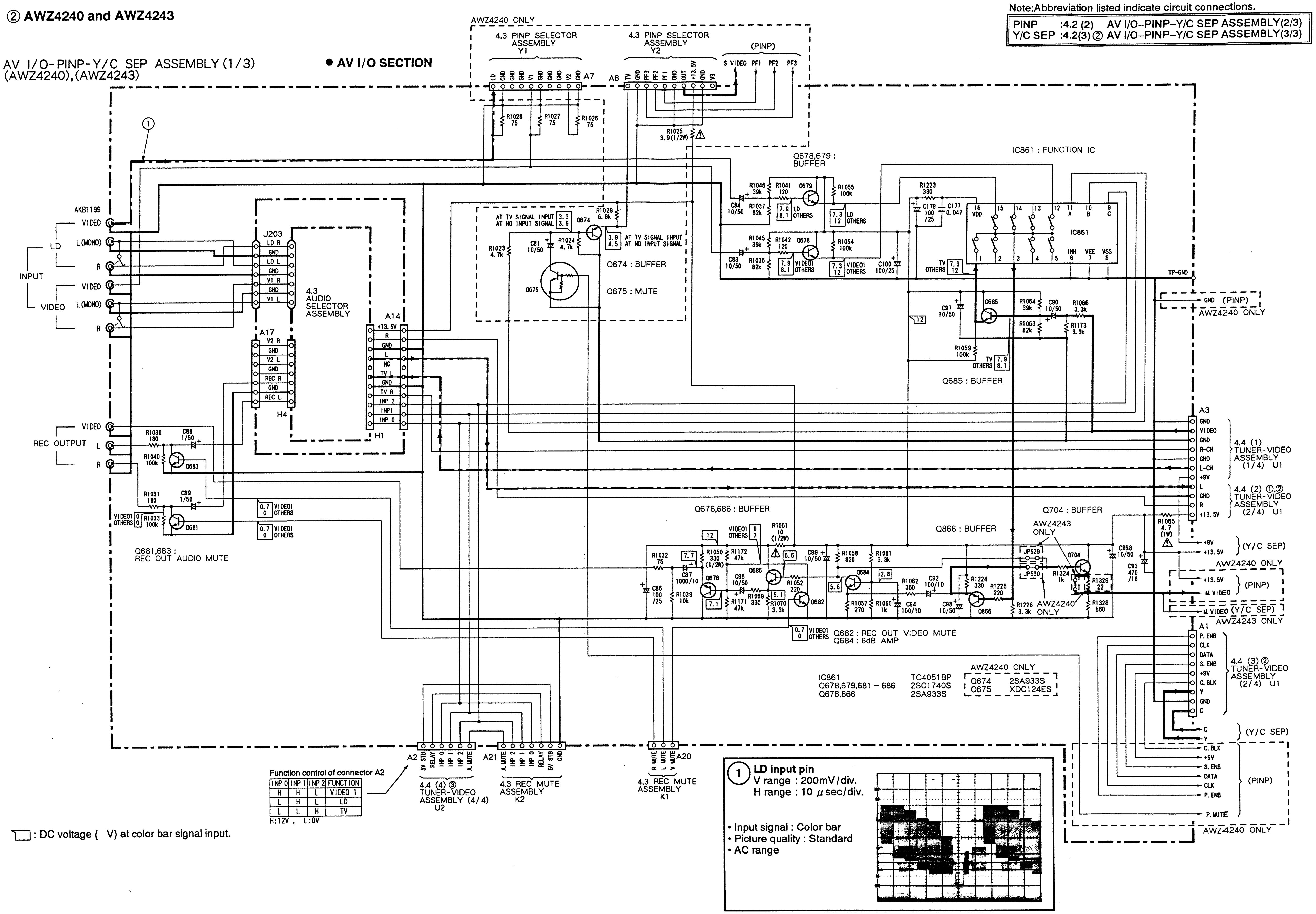
② AWZ4240 and AWZ4243

Note:Abbreviation listed indicate circuit connections.

PINP	:4.2 (2) AV I/O–PINP–Y/C SEP ASSEMBLY(2/3)
Y/C SEP	:4.2(3)② AV I/O–PINP–Y/C SEP ASSEMBLY(3/3)

AV I/O-PINP-Y/C SEP ASSEMBLY (1/3)
(AWZ4240),(AWZ4243)

● AV I/O SECTION


AWZ4240 ONLY
4.3 PINP SELECTOR ASSEMBLY Y1
4.3 PINP SELECTOR ASSEMBLY Y2
(PINP)
A7
A8
S VIDEO PF1 PF2 PF3
R1028 75
R1027 75
R1026 75
R1025 3.9(1/2W)
①
AKB1199
INPUT
LD
VIDEO
L(MONO)
R
VIDEO
REC OUTPUT
J203
A17
H4
4.3 AUDIO SELECTOR ASSEMBLY
A14
H1
AT TV SIGNAL INPUT 3.3
AT NO INPUT SIGNAL 3.9
Q674 : BUFFER
Q675 : MUTE
Q678,679 : BUFFER
IC861 : FUNCTION IC
IC861
TP-GND
GND (PINP)
AWZ4240 ONLY
Q685 : BUFFER
A3
4.4 (1) TUNER-VIDEO ASSEMBLY (1/4) U1
4.4 (2) ①,② TUNER-VIDEO ASSEMBLY (2/4) U1
Q681,683 : REC OUT AUDIO MUTE
Q676,686 : BUFFER
Q866 : BUFFER
Q704 : BUFFER
AWZ4243 ONLY
AWZ4240 ONLY
(Y/C SEP)
(PINP)
AWZ4243 ONLY
A1
4.4 (3) ② TUNER-VIDEO ASSEMBLY (2/4) U1
(Y/C SEP)
(PINP)
AWZ4240 ONLY
A2
A21
A20
4.4 (4) ③ TUNER-VIDEO ASSEMBLY (4/4) U2
4.3 REC MUTE ASSEMBLY K2
4.3 REC MUTE ASSEMBLY K1

Q682 : REC OUT VIDEO MUTE
Q684 : 6dB AMP

IC861	TC4051BP
Q678,679,681 – 686	2SC1740S
Q676,866	2SA933S

AWZ4240 ONLY

Q674	2SA933S
Q675	XDC124ES

Function control of connector A2

INP 0	INP 1	INP 2	FUNCTION
H	H	L	VIDEO 1
L	H	L	LD
L	L	H	TV

H:12V , L:0V

① **LD input pin**
V range : 200mV/div.
H range : 10 μsec/div.

- Input signal : Color bar
- Picture quality : Standard
- AC range

☐ : DC voltage (V) at color bar signal input.

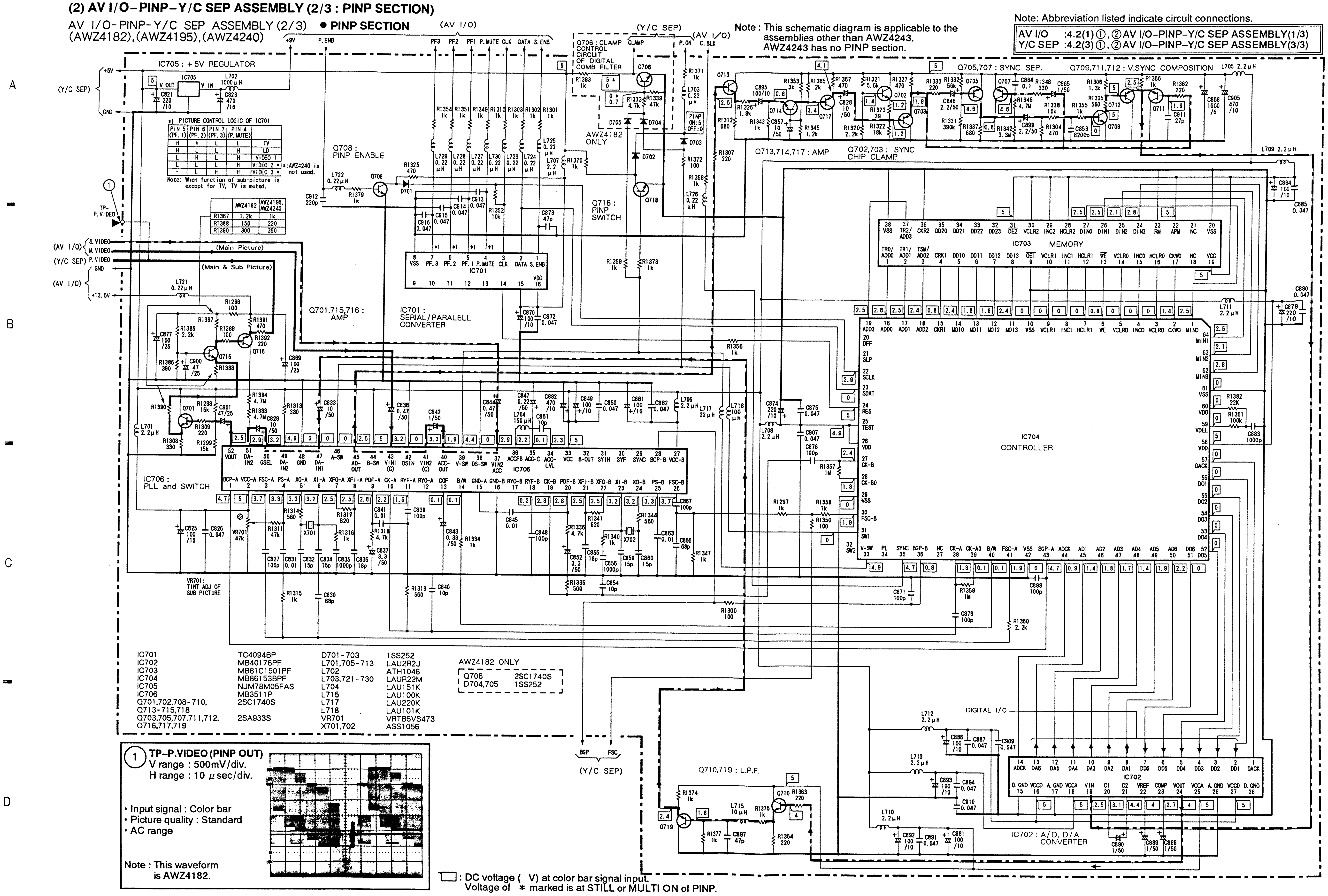
(2) AV I/O-PINP-Y/C SEP ASSEMBLY (2/3 : PINP SECTION)

AV I/O-PINP-Y/C SEP ASSEMBLY (2/3) **● PINP SECTION**
(AWZ4182),(AWZ4195),(AWZ4240)

Note : This schematic diagram is applicable to the assemblies other than AWZ4243.
AWZ4243 has no PINP section.

Note: Abbreviation listed indicate circuit connections.

AV I/O	:4.2(1)①,②AV I/O-PINP-Y/C SEP ASSEMBLY(1/3)
Y/C SEP	:4.2(3)①,②AV I/O-PINP-Y/C SEP ASSEMBLY(3/3)


IC705 : +5V REGULATOR
(Y/C SEP)
(AV I/O)
+5V
GND
+9V
P.ENB
PF3
PF2
PF1
P.MUTE
CLK
DATA
S.ENB
Q706 : CLAMP CONTROL CIRCUIT OF DIGITAL COMB FILTER
CLAMP
P.ON
C.BLK
AWZ4182 ONLY
Q708 : PINP ENABLE
Q718 : PINP SWITCH
Q701,715,716 : AMP
IC701 : SERIAL/PARALELL CONVERTER
IC701
Q713,714,717 : AMP
Q702,703 : SYNC CHIP CLAMP
Q705,707 : SYNC SEP.
Q709,711,712 : V.SYNC COMPOSITION
IC703 MEMORY
IC704 CONTROLLER
IC706 : PLL and SWITCH
IC706
VR701 : TINT ADJ OF SUB PICTURE
TP-P.VIDEO
S.VIDEO
M.VIDEO
P.VIDEO
+13.5V
(Main Picture)
(Main & Sub Picture)
DIGITAL I/O
Q710,719 : L.P.F.
IC702 : A/D, D/A CONVERTER
IC702
BGP
FSC

*1 PICTURE CONTROL LOGIC OF IC701

PIN 5 (PF.1)	PIN 6 (PF.2)	PIN 7 (PF.3)	PIN 4 (P.MUTE)	
H	H	L	L	TV
H	L	L	H	LD
L	H	L	H	VIDEO 1
L	L	L	H	VIDEO 2 *
-	L	H	H	VIDEO 3 *

*:AWZ4240 is not used.

Note: When function of sub-picture is except for TV, TV is muted.

	AWZ4182	AWZ4195, AWZ4240
R1387	1.2k	1k
R1388	150	220
R1390	300	360

IC701	TC4094BP	D701-703	1SS252
IC702	MB40176PF	L701,705-713	LAU2R2J
IC703	MB81C1501PF	L702	ATH1046
IC704	MB86153BPF	L703,721-730	LAUR22M
IC705	NJM78M05FAS	L704	LAU151K
IC706	MB3511P	L715	LAU100K
Q701,702,708-710, Q713-715,718	2SC1740S	L717	LAU220K
		L718	LAU101K
Q703,705,707,711,712, Q716,717,719	2SA933S	VR701	VRTB6VS473
		X701,702	ASS1056

AWZ4182 ONLY

Q706	2SC1740S
D704,705	1SS252

① **TP-P.VIDEO (PINP OUT)**
V range : 500mV/div.
H range : 10 μsec/div.

- Input signal : Color bar
- Picture quality : Standard
- AC range

Note : This waveform is AWZ4182.

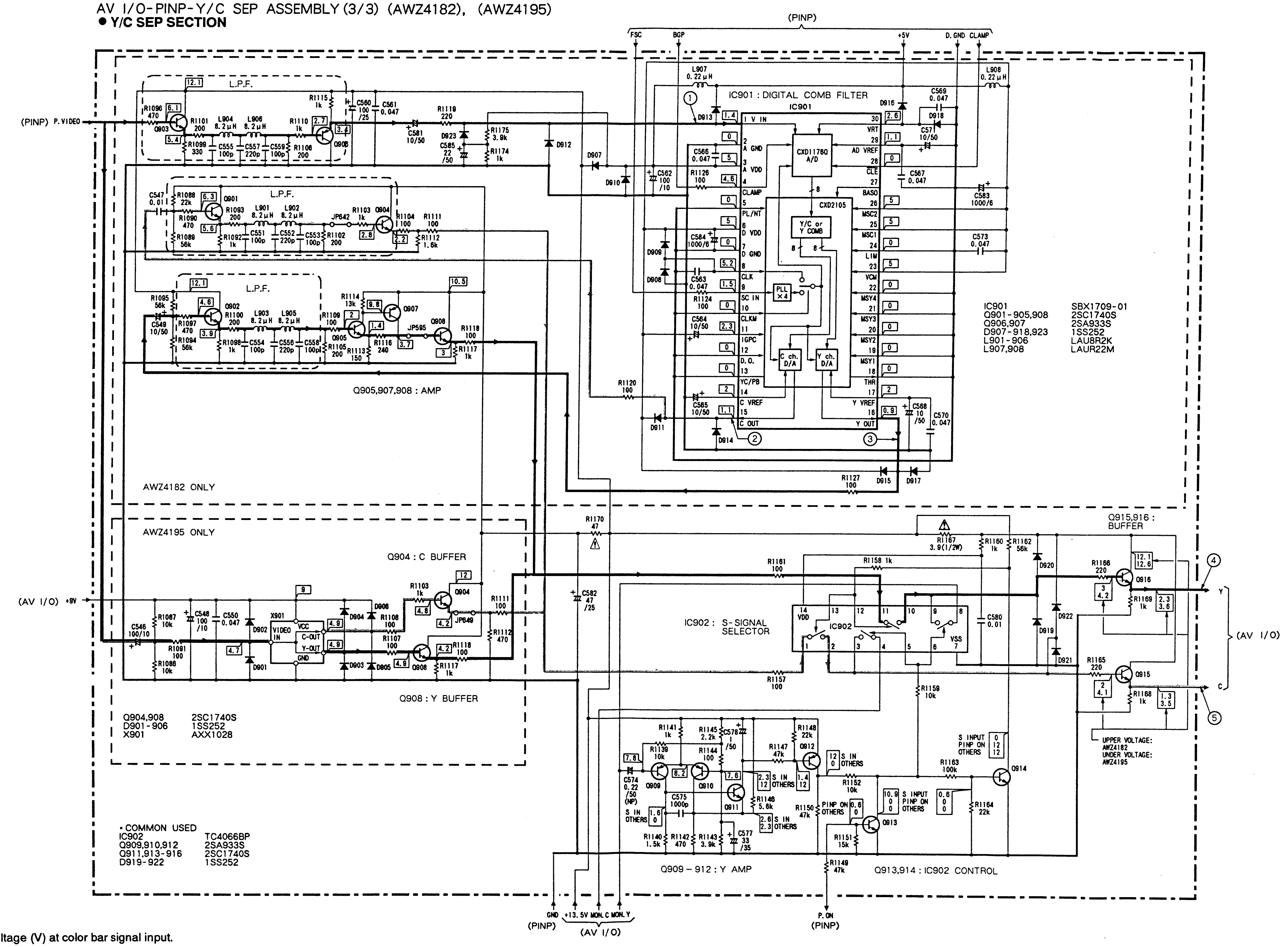
□ : DC voltage (V) at color bar signal input.
Voltage of ＊ marked is at STILL or MULTI ON of PINP.

(3) AV I/O–PINP–Y/C SEP ASSEMBLY (3/3 : Y/C SEP SECTION)

① AWZ4182 and AWZ4195

Note: Abbreviation listed indicate circuit connections.

AV I/O :4.2(1)① AV I/O–PINP–Y/C SEP ASSEMBLY(1/3)
PINP :4.2(2) AV I/O–PINP–Y/C SEP ASSEMBLY(2/3)


AV I/O-PINP-Y/C SEP ASSEMBLY (3/3) (AWZ4182), (AWZ4195)
● Y/C SEP SECTION
(PINP)
FSC
BGP
+5V
D. GND
CLAMP
(PINP) P. VIDEO
L.P.F.
IC901 : DIGITAL COMB FILTER
IC901
CXD1178Q A/D
CXD2105
Y/C or Y COMB
PLL ×4
C ch. D/A
Y ch. D/A
1 V IN
2 A GND
3 A VDD
4 CLAMP
5 PL/NT
6 D VDD
7 D GND
8
9 CLK
10 SC IN
11 CLKM
12 IGPC
13 D.O.
14 YC/PB
15 C VREF
16 C OUT
Y OUT
Y VREF
THR
MSY1
MSY2
MSY3
MSY4
VCM
LIM
MSC1
MSC2
BASO
CLE
AD VREF
VRT
Q905,907,908 : AMP
AWZ4182 ONLY
AWZ4195 ONLY
Q904 : C BUFFER
Q908 : Y BUFFER
X901
VIDEO IN
VCC
C-OUT
Y-OUT
GND
(AV I/O) +9V
IC901 SBX1709-01
Q901-905,908 2SC1740S
Q906,907 2SA933S
D907-918,923 1SS252
L901-906 LAU8R2K
L907,908 LAUR22M
Q904,908 2SC1740S
D901-906 1SS252
X901 AXX1028
IC902 : S-SIGNAL SELECTOR
IC902
VDD
VSS
Q915,916 : BUFFER
Y
C
(AV I/O)
UPPER VOLTAGE: AWZ4182
UNDER VOLTAGE: AWZ4195
S INPUT
PINP ON
OTHERS
S IN
OTHERS
Q909 - 912 : Y AMP
Q913,914 : IC902 CONTROL
* COMMON USED
IC902 TC4066BP
Q909,910,912 2SA933S
Q911,913-916 2SC1740S
D919-922 1SS252
GND
+13. 5V
MON. C
MON. Y
(PINP)
(AV I/O)
P. ON
(PINP)

□: DC voltage (V) at color bar signal input.

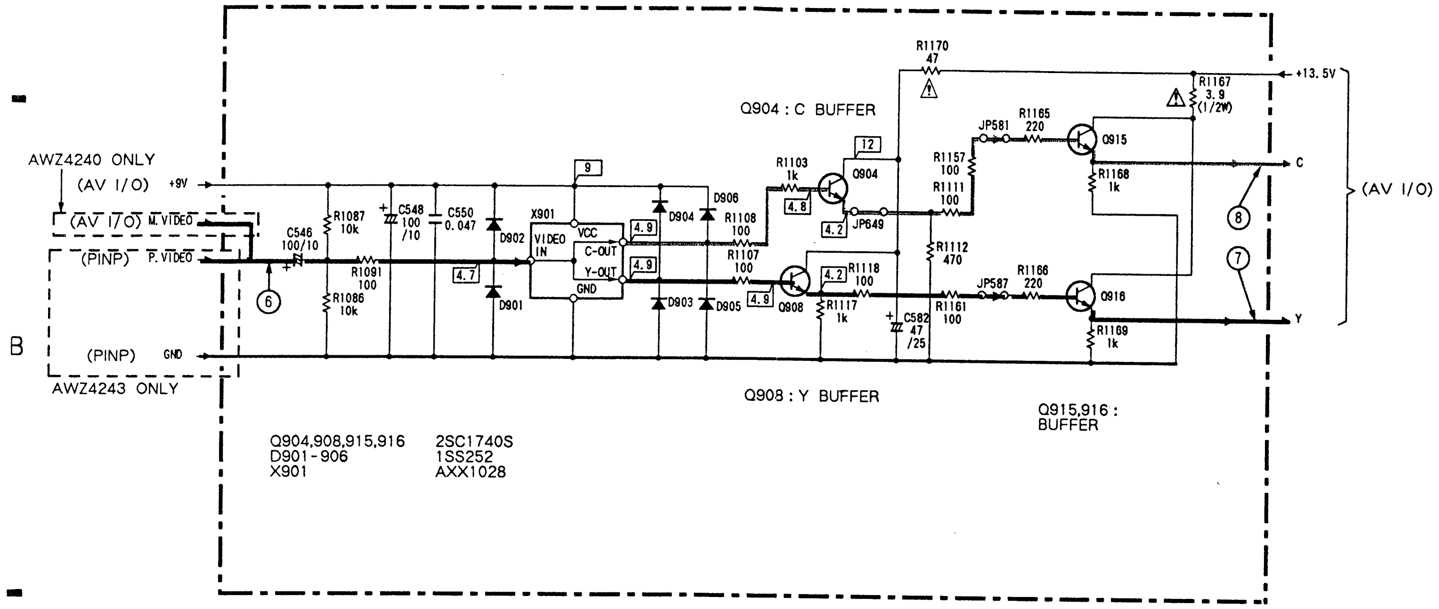
② AWZ4240 and AWZ4243

Note: Abbreviation listed indicate circuit connections.

AV I/O :4.2(1)② AV I/O-PINP-Y/C SEP ASSEMBLY(1/3)
PINP :4.2(2) AV I/O-PINP-Y/C SEP ASSEMBLY(2/3)

AV I/O-PINP-Y/C SEP ASSEMBLY (3/3) (AWZ4240), (AWZ4243)

● Y/C SEP SECTION

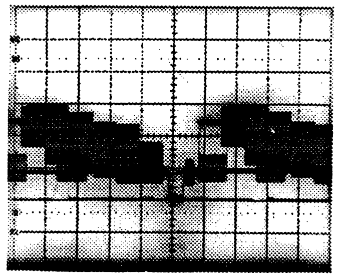

AWZ4240 ONLY
(AV I/O) +9V
(AV I/O) M.VIDEO
(PINP) P.VIDEO
(PINP) GND
AWZ4243 ONLY
⑥
C546 100/10
R1087 10k
R1091 100
R1086 10k
C548 100 /10
C550 0.047
D902
D901
4.7
X901
VIDEO IN
VCC
C-OUT
Y-OUT
GND
9
4.9
4.9
D904
D906
D903
D905
R1108 100
R1107 100
R1103 1k
4.8
Q904
12
4.2
JP649
Q904 : C BUFFER
Q908
4.9
4.2
R1118 100
R1117 1k
C582 47 /25
R1170 47
R1157 100
R1111 100
R1112 470
R1161 100
JP581
R1165 220
JP587
R1166 220
Q915
Q916
R1168 1k
R1169 1k
R1167 3.9 (1/2W)
+13.5V
C
Y
⑧
⑦
(AV I/O)
Q908 : Y BUFFER
Q915,916 : BUFFER
Q904,908,915,916 2SC1740S
D901-906 1SS252
X901 AXX1028

▭: DC voltage (V) at color bar signal input.

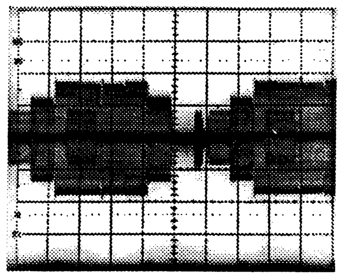
● Waveformes at Y/C SEP section

- Input signal : Color bar
- Picture quality : standard
- AC range

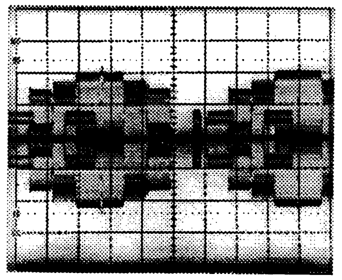
① **IC901 pin 1**
V range : 500mV/div.
H range : 10 μsec/div.



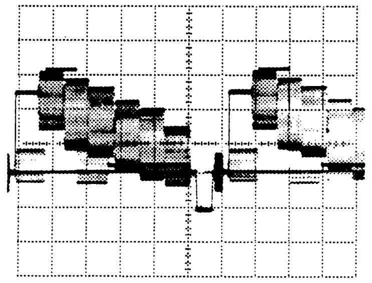
⑤ **Q915 Emitter (C OUTPUT)**
V range : 100mV/div.
H range : 10 μsec/div.



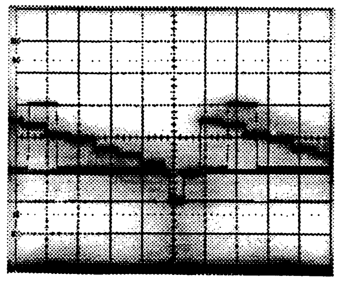
② **IC901 pin 15**
V range : 200mV/div.
H range : 10 μsec/div.



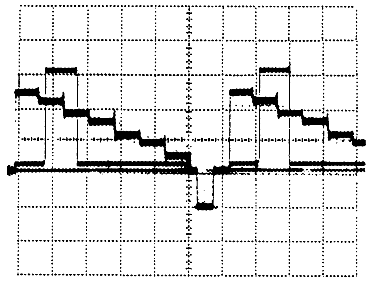
⑥ **C546 lead wire of + side (PIP OUT)**
V range : 500mV/div.
H range : 10 μsec/div.



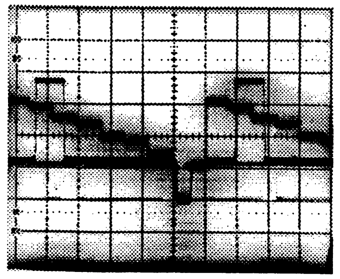
③ **IC901 pin 16**
V range : 500mV/div.
H range : 10 μsec/div.



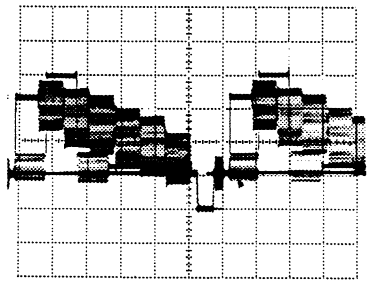
⑦ **Q916 Emitter (Y OUTPUT)**
V range : 500mV/div.
H range : 10 μsec/div.



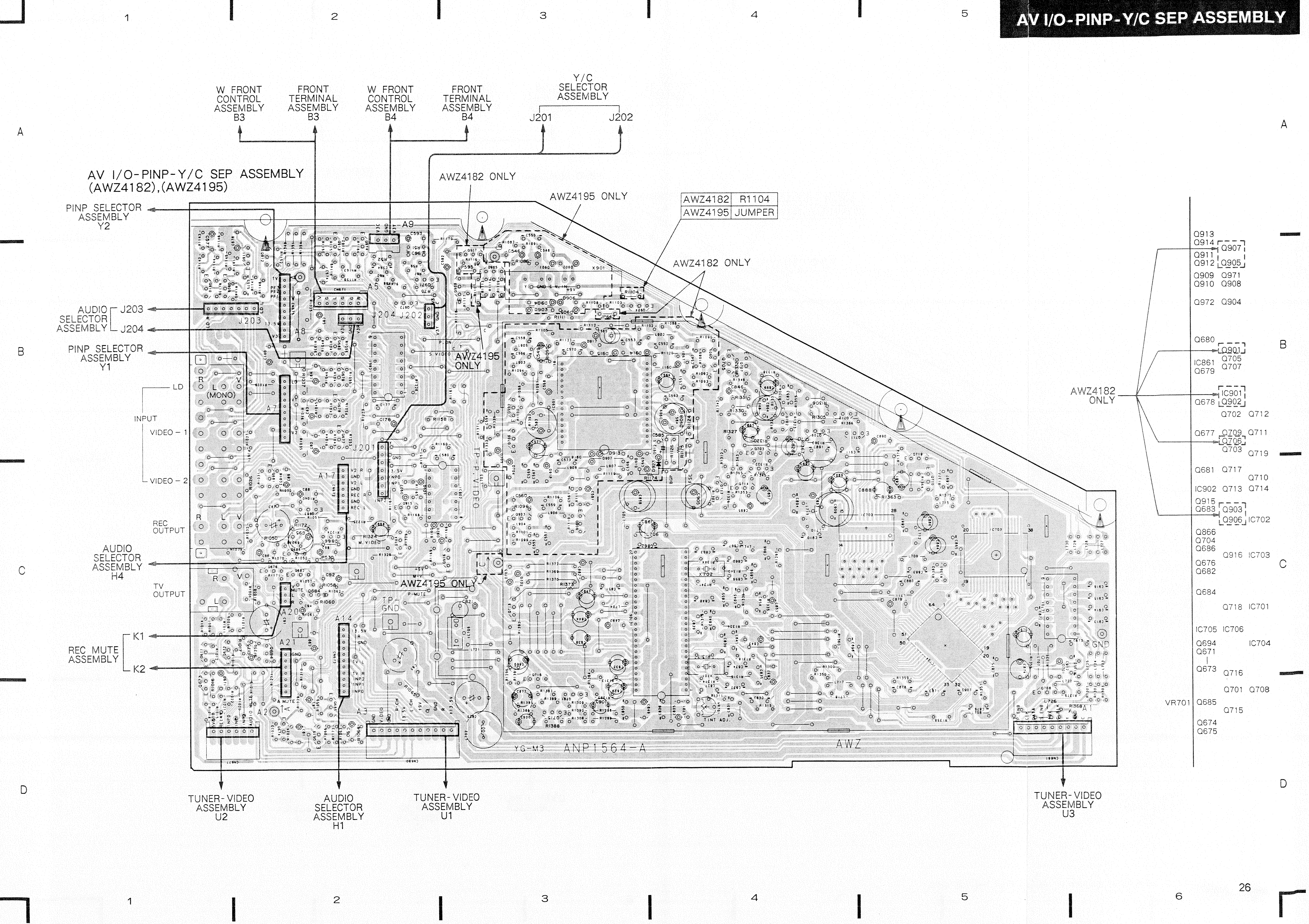
④ **Q916 Emitter (Y OUTPUT)**
V range : 500mV/div.
H range : 10 μsec/div.

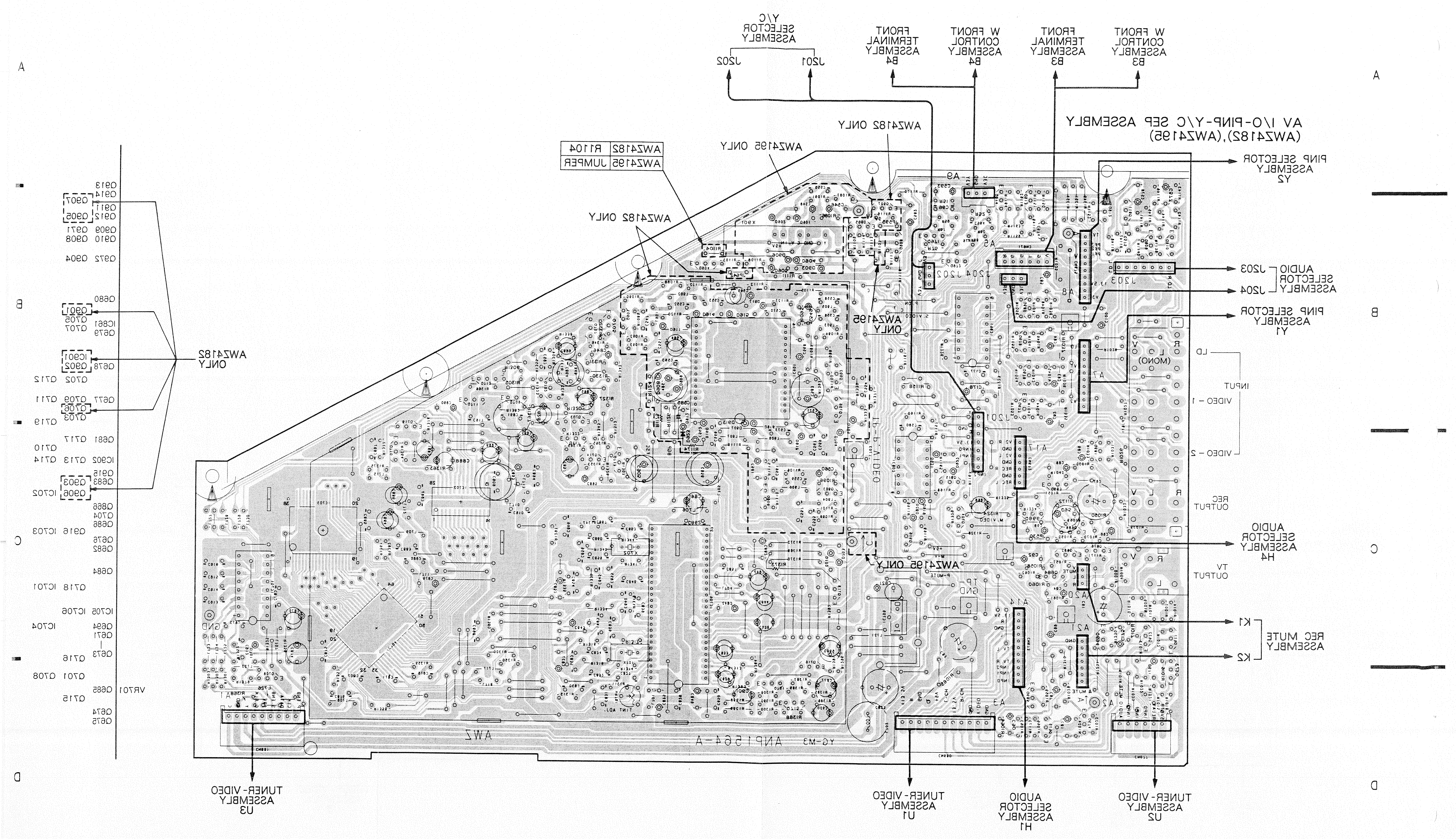


⑧ **Q915 Emitter (C OUTPUT)**
V range : 500mV/div.
H range : 10 μsec/div.



AV I/O-PINP-Y/C SEP ASSEMBLY
(AWZ4182),(AWZ4195)


1
2
3
4
5
6
A
B
C
D
W FRONT CONTROL ASSEMBLY B3
FRONT TERMINAL ASSEMBLY B3
W FRONT CONTROL ASSEMBLY B4
FRONT TERMINAL ASSEMBLY B4
Y/C SELECTOR ASSEMBLY
J201
J202
AWZ4182 ONLY
AWZ4195 ONLY
AWZ4182 | R1104
AWZ4195 | JUMPER
AWZ4182 ONLY
PINP SELECTOR ASSEMBLY Y2
AUDIO SELECTOR ASSEMBLY
J203
J204
PINP SELECTOR ASSEMBLY Y1
LD
INPUT
VIDEO - 1
VIDEO - 2
(MONO)
REC OUTPUT
AUDIO SELECTOR ASSEMBLY H4
TV OUTPUT
K1
REC MUTE ASSEMBLY
K2
A9
A5
A8
A7
A17
A20
A21
A14
A2
A3
A1
J204
J202
J201
AWZ4195 ONLY
AWZ4195 ONLY
TP-P VIDEO
TP-GND
TINT ADJ.
GND
YG-M3
ANP1564-A
AWZ
TUNER-VIDEO ASSEMBLY U2
AUDIO SELECTOR ASSEMBLY H1
TUNER-VIDEO ASSEMBLY U1
TUNER-VIDEO ASSEMBLY U3
AWZ4182 ONLY
Q913
Q914
Q911
Q907
Q912
Q905
Q909 Q971
Q910 Q908
Q972 Q904
Q680
Q901
IC861 Q705
Q679 Q707
IC901
Q678 Q902
Q702 Q712
Q677 Q709 Q711
Q706
Q703
Q719
Q681 Q717
Q710
IC902 Q713 Q714
Q915
Q683 Q903
Q906 IC702
Q866
Q704
Q686
Q916 IC703
Q676
Q682
Q684
Q718 IC701
IC705 IC706
Q694
IC704
Q671
Q673
Q716
Q701 Q708
VR701 Q685
Q715
Q674
Q675

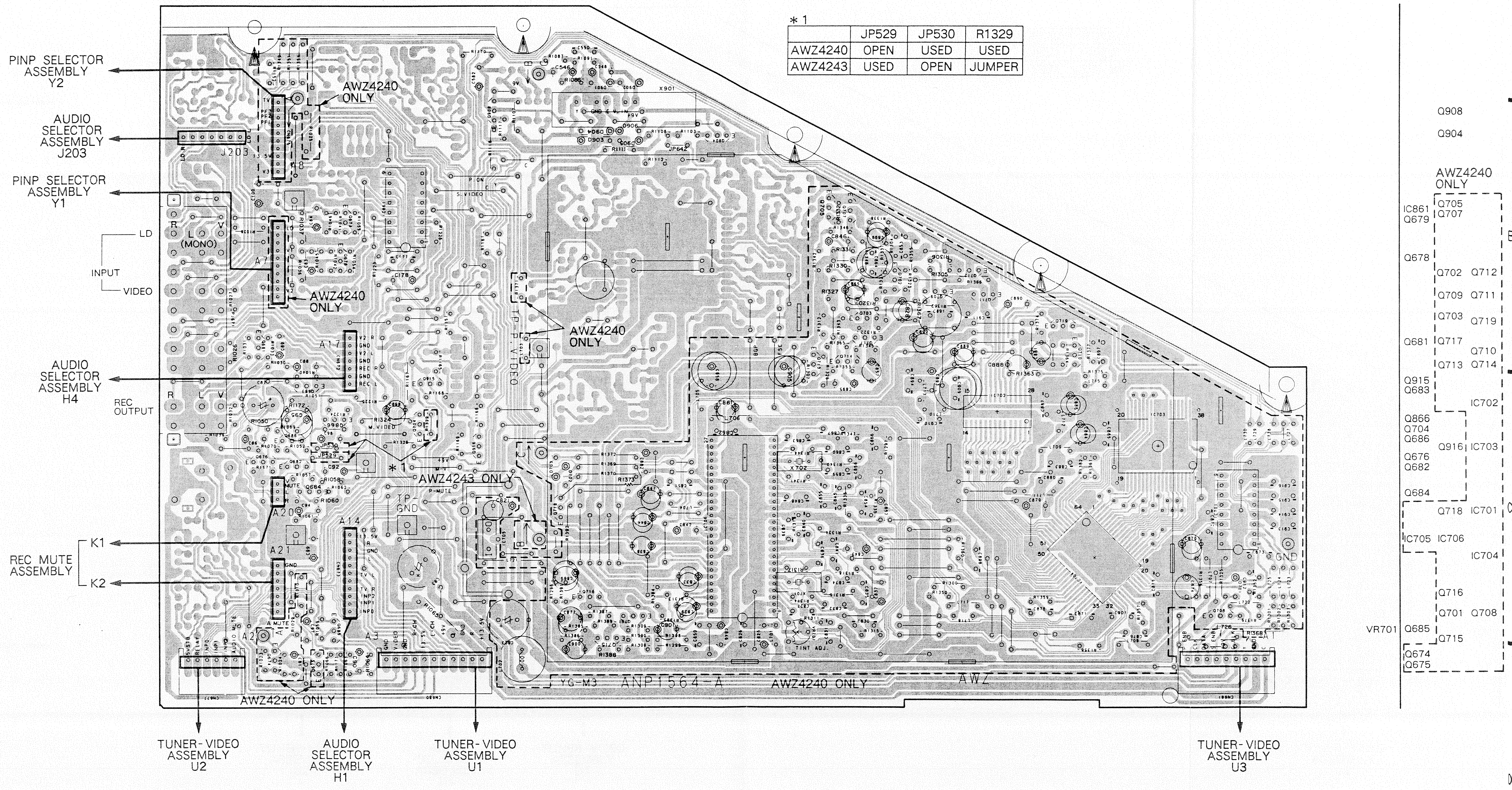

Y/C SELECTOR ASSEMBLY
J201
J202
FRONT TERMINAL ASSEMBLY B4
W FRONT CONTROL ASSEMBLY B4
FRONT TERMINAL ASSEMBLY B3
W FRONT CONTROL ASSEMBLY B3
AWZ4182 ONLY
AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4182),(AWZ4195)
AWZ4195 ONLY
AWZ4182 R1104
AWZ4195 JUMPER
PINP SELECTOR ASSEMBLY Y2
AWZ4182 ONLY
AUDIO SELECTOR ASSEMBLY
J203
J204
PINP SELECTOR ASSEMBLY Y1
AWZ4195 ONLY
LD
INPUT
VIDEO-1
VIDEO-2
(MONO)
REC OUTPUT
AUDIO SELECTOR ASSEMBLY H4
AWZ4195 ONLY
TV OUTPUT
REC MUTE ASSEMBLY
K1
K2
AWZ4182 ONLY
Q913
Q914
Q907
Q911
Q905
Q912
Q909
Q971
Q910
Q908
Q972
Q904
Q680
Q901
Q705
IC861
Q707
Q679
IC901
IC902
Q678
Q702
Q712
Q677
Q709
Q711
Q706
Q703
Q719
Q681
Q717
Q710
IC902
Q713
Q714
Q915
Q903
Q683
Q906
IC702
Q686
Q704
Q688
Q916
IC703
Q676
Q682
Q684
Q718
IC701
IC705
IC706
Q694
IC704
Q671
Q673
Q716
Q701
Q708
Q685
VR701
Q715
Q674
Q675
TUNER-VIDEO ASSEMBLY U3
TUNER-VIDEO ASSEMBLY U1
AUDIO SELECTOR ASSEMBLY H1
TUNER-VIDEO ASSEMBLY U2
ANP1564-A
YG-M3
AWZ
A
B
C
D
1
2
3
4
5
6

This P.C.B. connection diagram is viewed from the foil side.

AV I/O-PINP-Y/C SEP ASSEMBLY
(AWZ4240),(AWZ4243)

*1

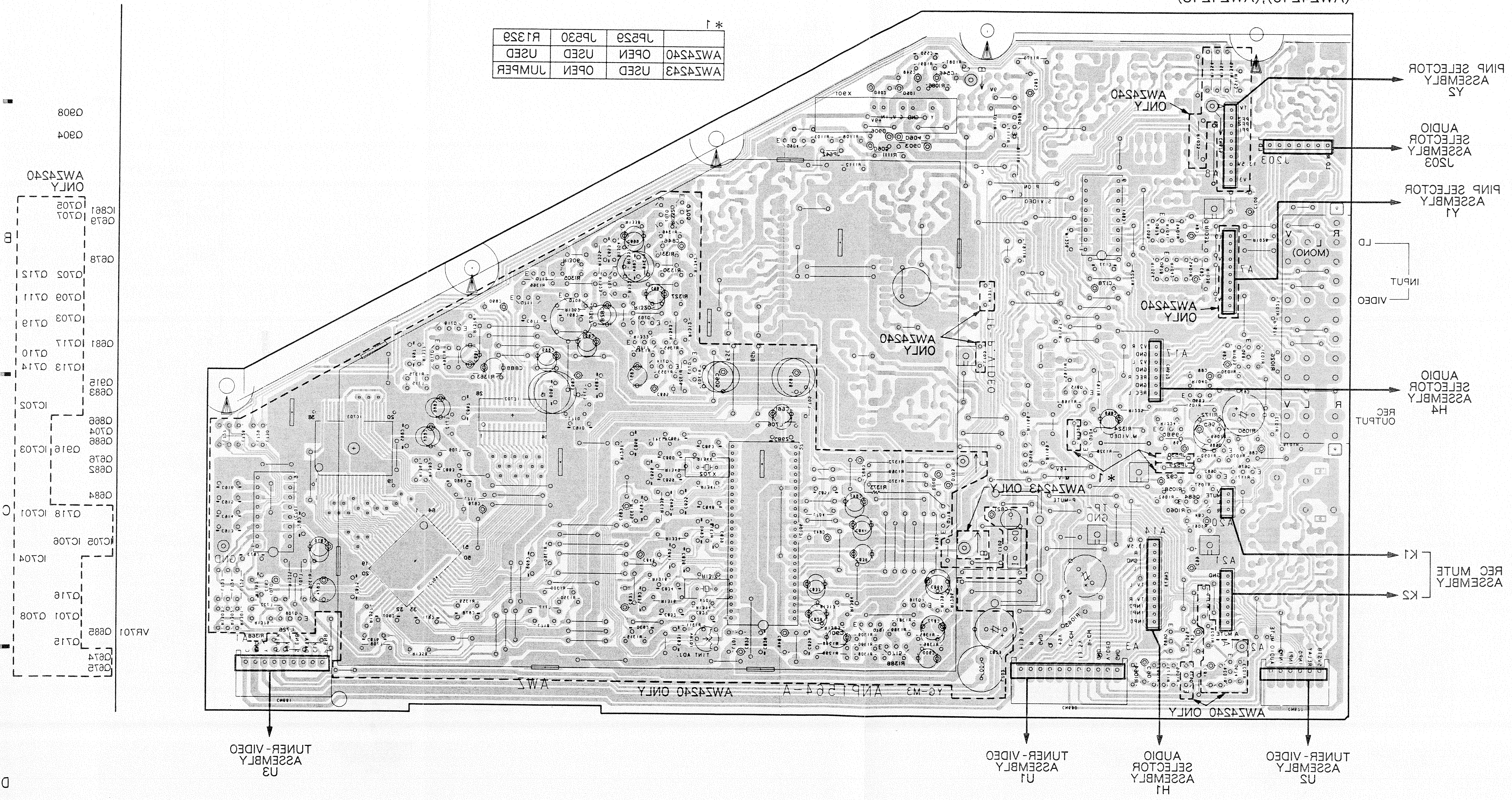
	JP529	JP530	R1329
AWZ4240	OPEN	USED	USED
AWZ4243	USED	OPEN	JUMPER


PINP SELECTOR ASSEMBLY Y2
AUDIO SELECTOR ASSEMBLY J203
PINP SELECTOR ASSEMBLY Y1
LD
INPUT
VIDEO
AUDIO SELECTOR ASSEMBLY H4
REC OUTPUT
REC MUTE ASSEMBLY
K1
K2
J203
A7
A17
A20
A21
A14
A2
A1
R
L (MONO)
R L V
AWZ4240 ONLY
AWZ4240 ONLY
AWZ4240 ONLY
AWZ4243 ONLY
*1
JP529
JP530
R1329
TP-GND
P-MUTE
S.VIDEO
P-VIDEO
X901
X702
TINT ADJ
IC703
IC702
GND
YG-M3
ANP1564-A
AWZ4240 ONLY
AWZ
AWZ4240 ONLY
TUNER-VIDEO ASSEMBLY U2
AUDIO SELECTOR ASSEMBLY H1
TUNER-VIDEO ASSEMBLY U1
TUNER-VIDEO ASSEMBLY U3
Q908
Q904
AWZ4240 ONLY
IC861
Q679
Q705
Q707
Q678
Q702
Q712
Q709
Q711
Q703
Q719
Q681
Q717
Q710
Q713
Q714
Q915
Q683
IC702
Q866
Q704
Q686
Q916
IC703
Q676
Q682
Q684
Q718
IC701
IC705
IC706
IC704
Q716
Q701
Q708
VR701
Q685
Q715
Q674
Q675

AV I/O-PINP-Y/C SEP ASSEMBLY
(AWZ4240),(AWZ4243)

*1

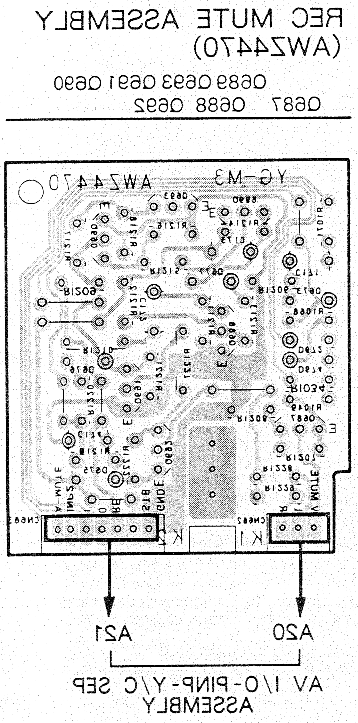
	JP529	JP530	R1329
AWZ4240	OPEN	USED	USED
AWZ4243	USED	OPEN	JUMPER

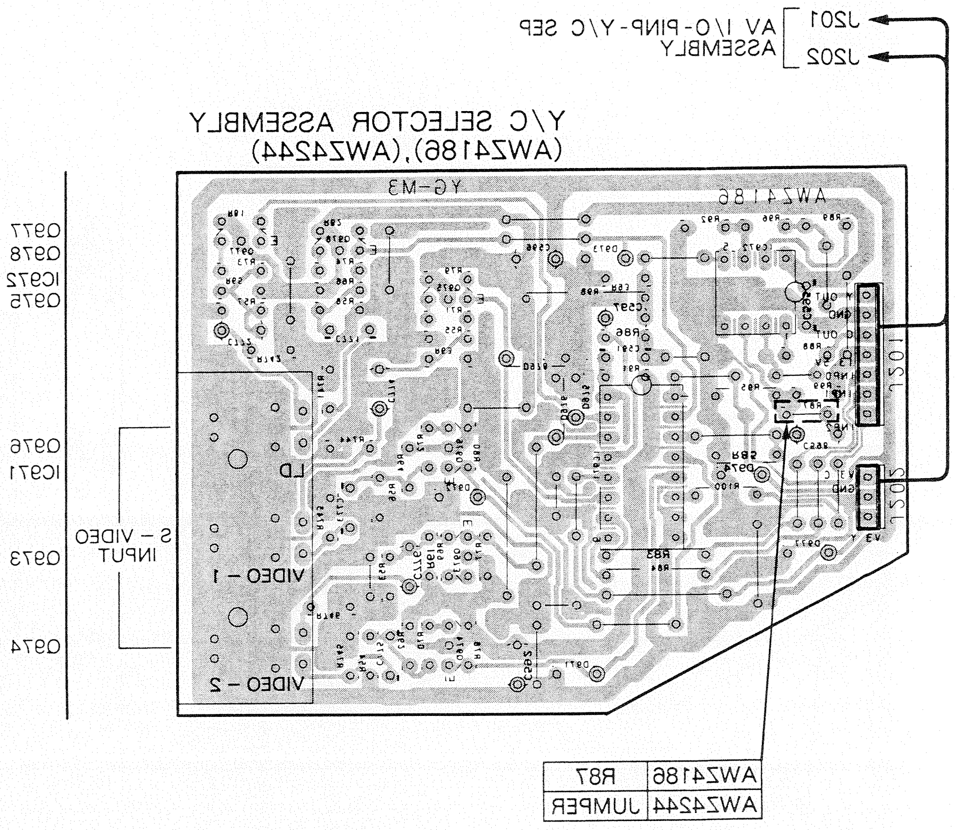

PINP SELECTOR ASSEMBLY Y2
AUDIO SELECTOR ASSEMBLY J203
PINP SELECTOR ASSEMBLY Y1
LD
(MONO)
INPUT
VIDEO
AUDIO SELECTOR ASSEMBLY H4
REC OUTPUT
REC MUTE ASSEMBLY
K1
K2
AWZ4240 ONLY
AWZ4243 ONLY
TUNER-VIDEO ASSEMBLY U3
TUNER-VIDEO ASSEMBLY U1
AUDIO SELECTOR ASSEMBLY H1
TUNER-VIDEO ASSEMBLY U2
ANP1564-A
Q908
Q904
VR701

This P.C.B. connection diagram is viewed from the foil side.

4.3 Y/C SELECTOR, AUDIO SELECTOR, PINP SELECTOR AND REC MUTE ASSEMBLIES

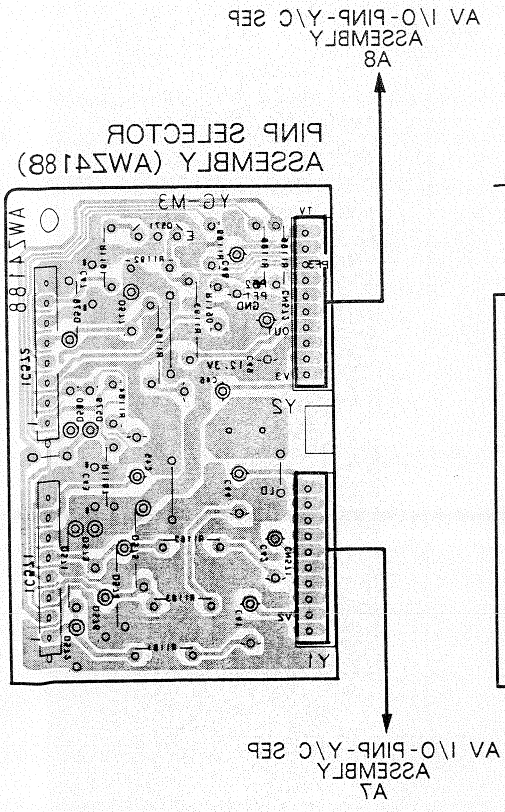
A

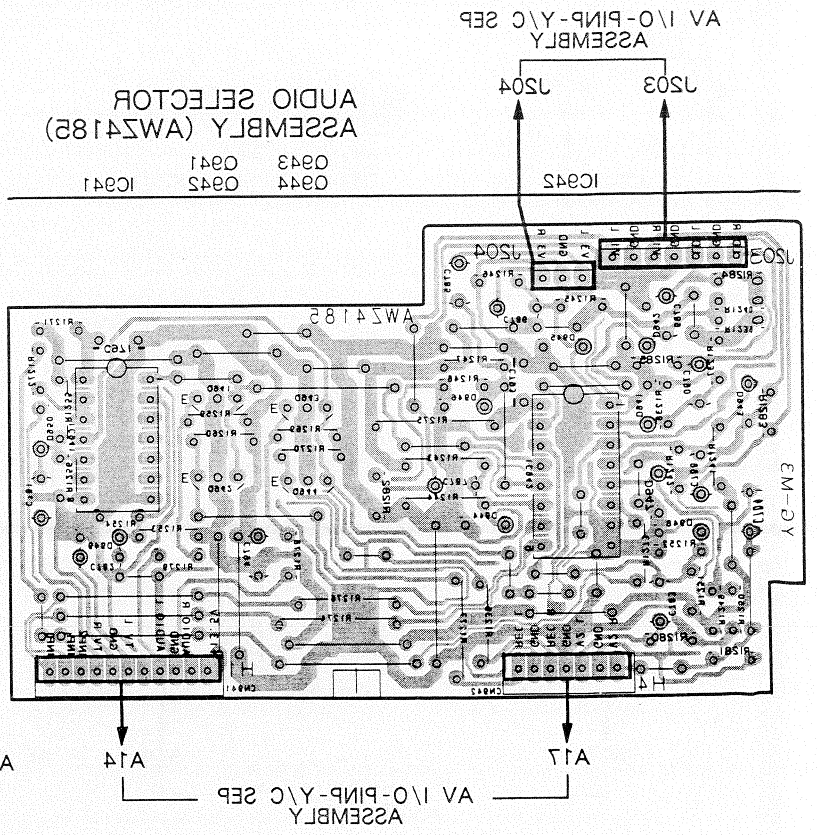

REC MUTE ASSEMBLY (AWZ4470)
Q687 Q688 Q692
Q689 Q693 Q691 Q690
YG-M3
AWZ4470
CN683
CN682
K1
K2
A21
A20
AV I/O-PINP-Y/C SEP ASSEMBLY


J201
J202
AV I/O-PINP-Y/C SEP ASSEMBLY
Y/C SELECTOR ASSEMBLY (AWZ4186),(AWZ4244)
Q977
Q978
IC972
Q975
Q976
IC971
Q973
Q974
S - VIDEO INPUT
LD
VIDEO - 1
VIDEO - 2
YG-M3
AWZ4186
CN201
CN205
AWZ4186 R87
AWZ4244 JUMPER

B

C


AV I/O-PINP-Y/C SEP ASSEMBLY
A8
PINP SELECTOR ASSEMBLY (AWZ4188)
YG-M3
AWZ4188
IC211
IC212
SY
SV
Y1
AV I/O-PINP-Y/C SEP ASSEMBLY
A7

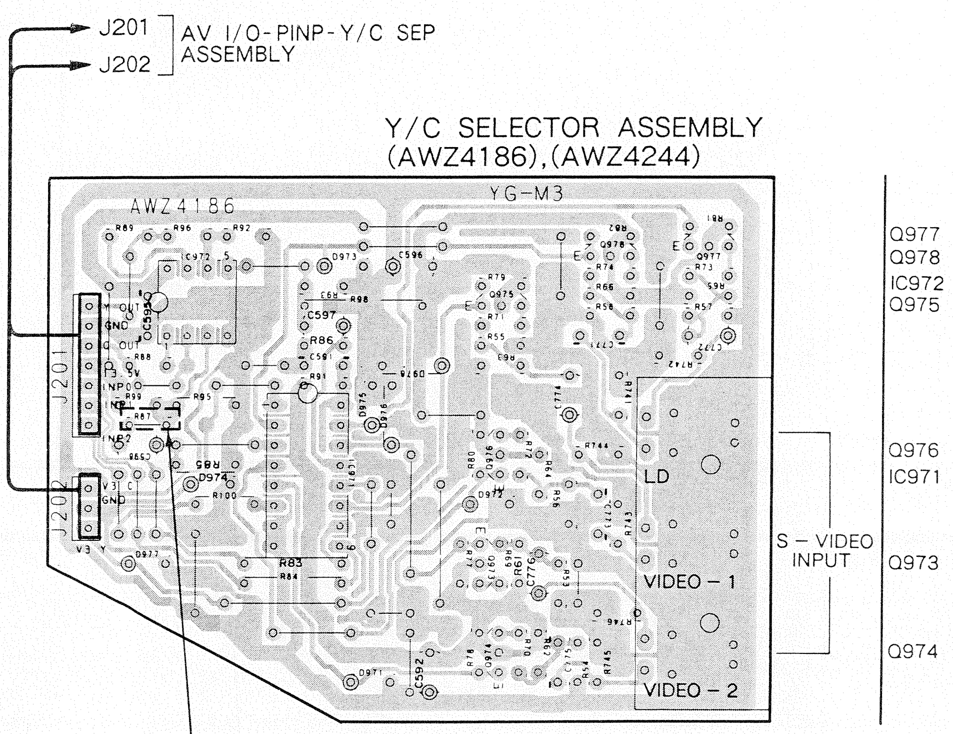

AV I/O-PINP-Y/C SEP ASSEMBLY
J204
J203
AUDIO SELECTOR ASSEMBLY (AWZ4185)
Q943 Q941
Q944 Q942 IC941
IC942
AWZ4185
YG-M3
CN941
CN942
H1
H4
A14
A17
AV I/O-PINP-Y/C SEP ASSEMBLY

D

This P.C.B. connection diagram is viewed from the foil side.

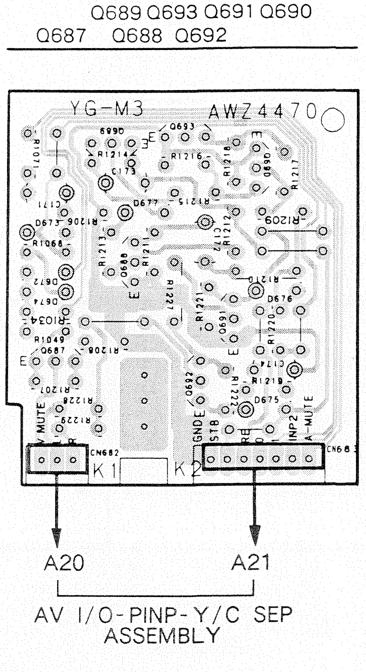
Y/C SELECTOR, AUDIO SELECTOR, PINP SELECTOR AND REC MUTE ASSEMBLIES

Y/C SELECTOR ASSEMBLY (AWZ4186),(AWZ4244)

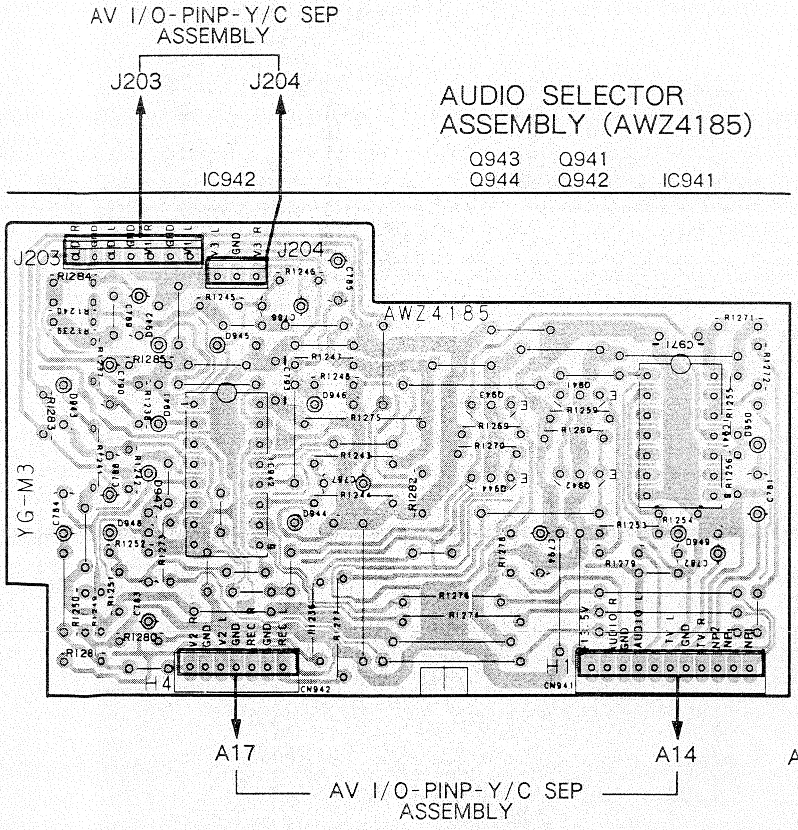

J201
J202
AV I/O-PINP-Y/C SEP ASSEMBLY
AWZ4186
YG-M3
S – VIDEO INPUT
LD
VIDEO – 1
VIDEO – 2
Q977
Q978
IC972
Q975
Q976
IC971
Q973
Q974
M OUT
GND
C OUT
13.5V
INP0
INP2
V3
C
GND
Y
R87
R83
R84
R85
D974

AWZ4186	R87
AWZ4244	JUMPER

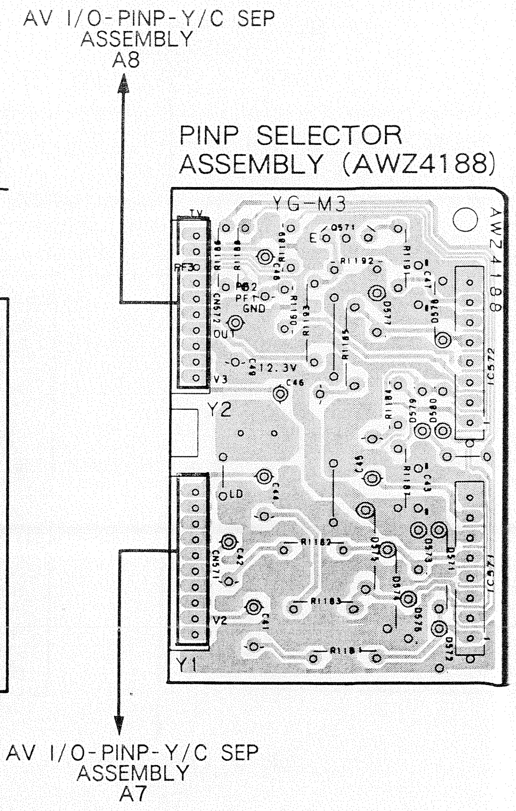
REC MUTE ASSEMBLY (AWZ4470)


Q689 Q693 Q691 Q690
Q687 Q688 Q692
YG-M3
AWZ4470
V MUTE
CN682
K1
K2
GNDE
STB
INP2
A-MUTE
CN683
A20
A21
AV I/O-PINP-Y/C SEP ASSEMBLY

AUDIO SELECTOR ASSEMBLY (AWZ4185)

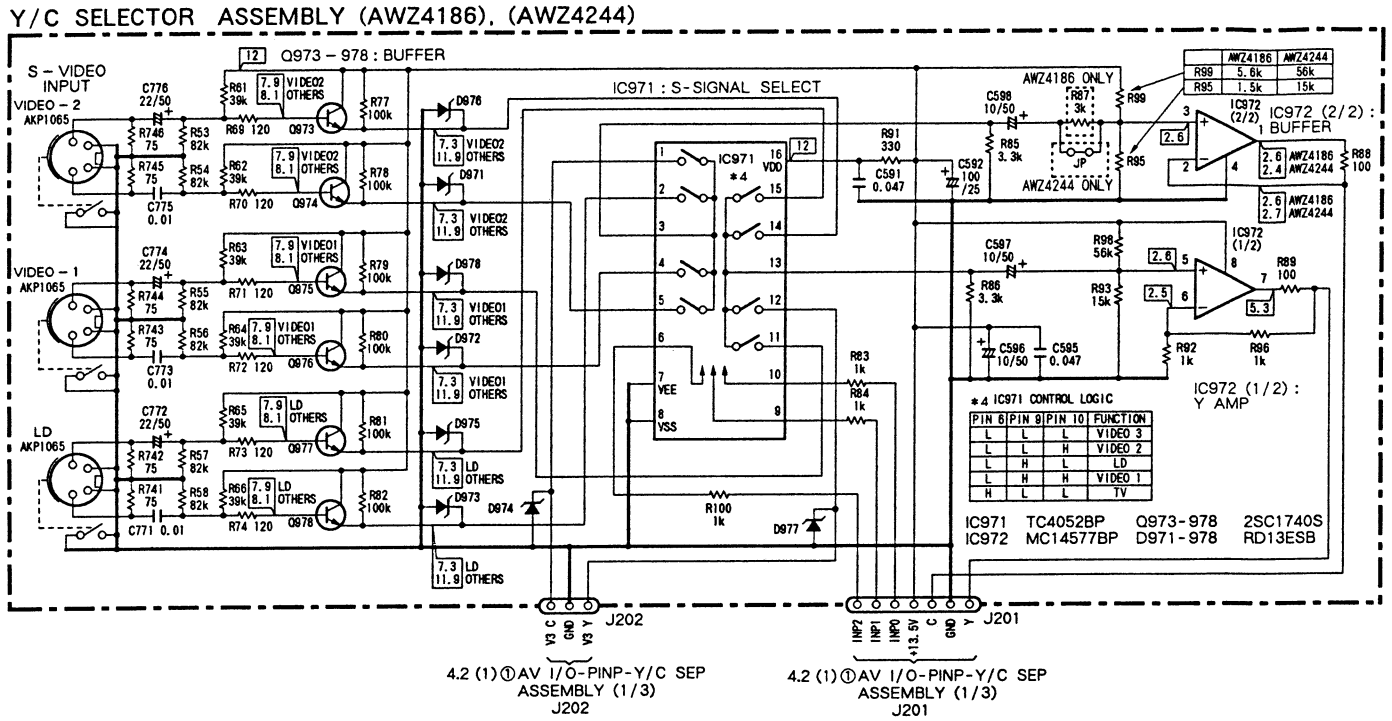

AV I/O-PINP-Y/C SEP ASSEMBLY
J203
J204
Q943 Q941
Q944 Q942
IC942
IC941
AWZ4185
YG-M3
H4
H1
CN942
CN941
13.5V
AUDIO R
GND
AUDIO L
TV L
GND
TV R
NP2
NP1
NP0
A17
A14
AV I/O-PINP-Y/C SEP ASSEMBLY

PINP SELECTOR ASSEMBLY (AWZ4188)


AV I/O-PINP-Y/C SEP ASSEMBLY
A8
YG-M3
AWZ4188
TV
RF3
GND
OUT
12.3V
V3
Y2
LD
V2
Y1
IC572
IC571
CN572
CN571
AV I/O-PINP-Y/C SEP ASSEMBLY
A7

Y/C SELECTOR, AUDIO SELECTOR, PINP SELECTOR AND REC MUTE ASSEMBLIES

Y/C SELECTOR ASSEMBLY (AWZ4186), (AWZ4244)

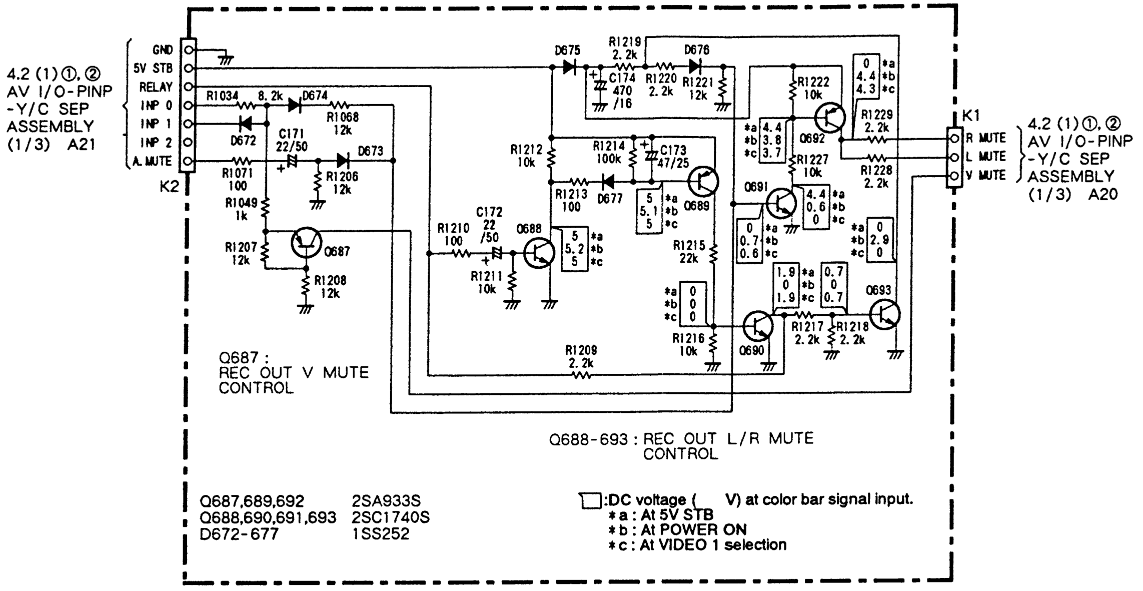

Q973 - 978 : BUFFER
IC971 : S-SIGNAL SELECT
S - VIDEO INPUT
VIDEO - 2
VIDEO - 1
LD
AKP1065
AWZ4186 ONLY
AWZ4244 ONLY
IC972 (2/2) : BUFFER
IC972 (1/2) : Y AMP
J202
J201
4.2 (1)①AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) J202
4.2 (1)①AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) J201

*4 IC971 CONTROL LOGIC

PIN 6	PIN 9	PIN 10	FUNCTION
L	L	L	VIDEO 3
L	L	H	VIDEO 2
L	H	L	LD
L	H	H	VIDEO 1
H	L	L	TV

IC971	TC4052BP	Q973-978	2SC1740S
IC972	MC14577BP	D971-978	RD13ESB

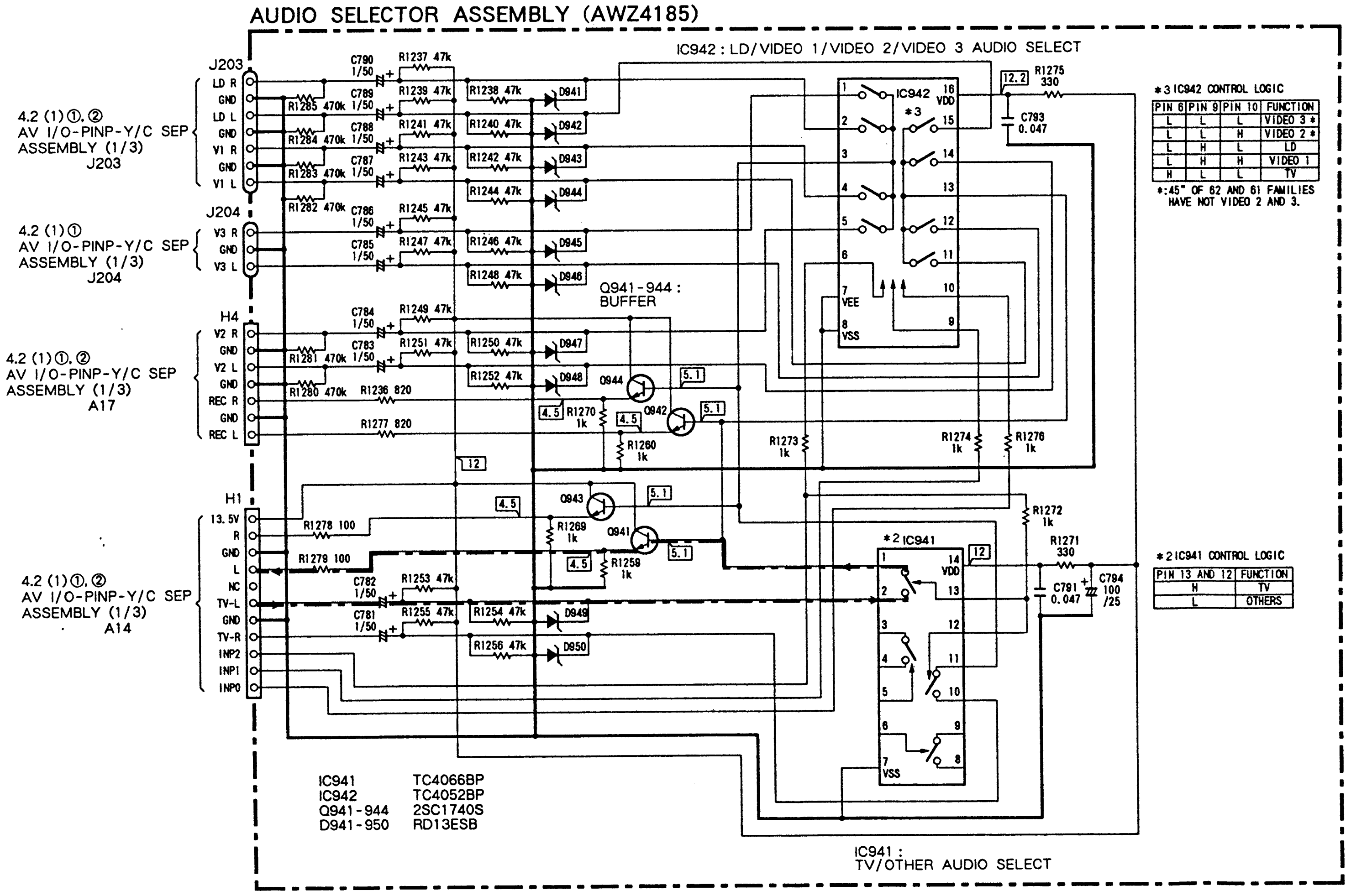
REC MUTE ASSEMBLY (AWZ4470)


4.2 (1)①, ② AV I/O-PINP -Y/C SEP ASSEMBLY (1/3) A21
K2
K1
4.2 (1)①, ② AV I/O-PINP -Y/C SEP ASSEMBLY (1/3) A20
Q687 : REC OUT V MUTE CONTROL
Q688-693 : REC OUT L/R MUTE CONTROL

Q687,689,692	2SA933S	
Q688,690,691,693	2SC1740S	
D672-677	1SS252	

□:DC voltage (V) at color bar signal input.
*a : At 5V STB
*b : At POWER ON
*c : At VIDEO 1 selection

AUDIO SELECTOR ASSEMBLY (AWZ4185)


IC942 : LD/VIDEO 1/VIDEO 2/VIDEO 3 AUDIO SELECT
J203
4.2 (1)①, ② AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) J203
J204
4.2 (1)① AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) J204
H4
4.2 (1)①, ② AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A17
H1
4.2 (1)①, ② AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A14
Q941-944 : BUFFER
IC941 : TV/OTHER AUDIO SELECT

*3 IC942 CONTROL LOGIC

PIN 6	PIN 9	PIN 10	FUNCTION
L	L	L	VIDEO 3 *
L	L	H	VIDEO 2 *
L	H	L	LD
L	H	H	VIDEO 1
H	L	L	TV

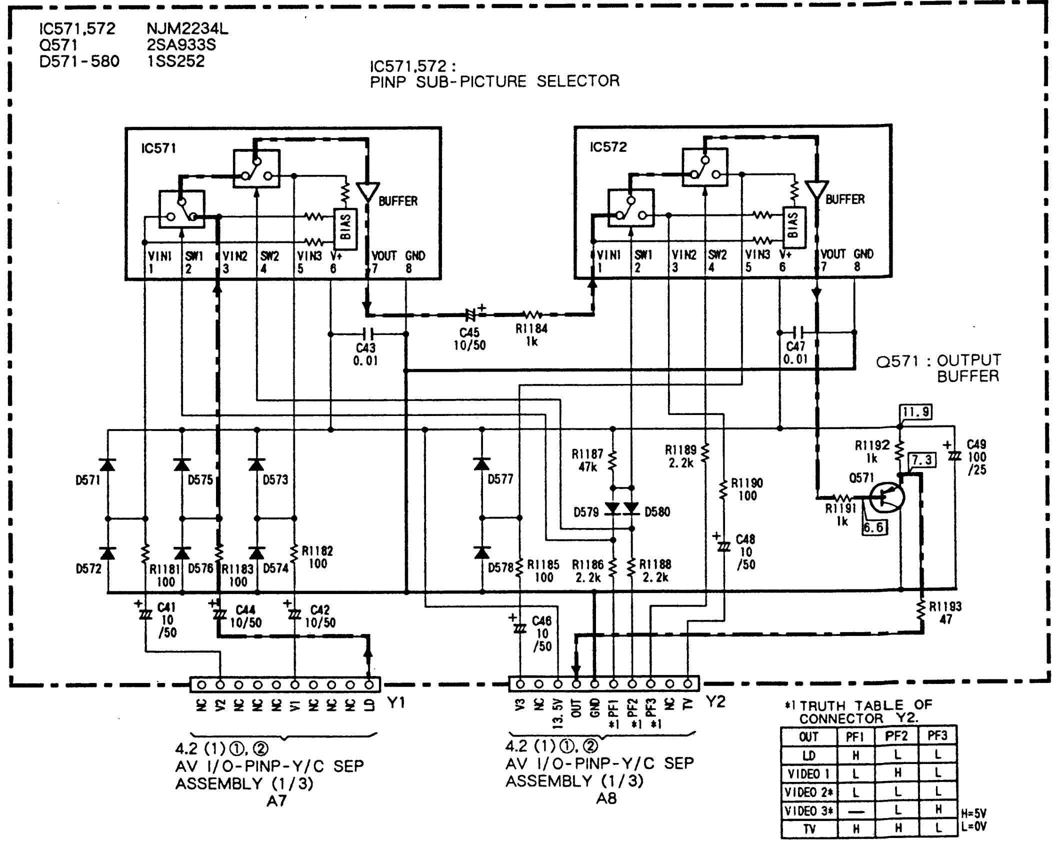
*:45" OF 62 AND 61 FAMILIES HAVE NOT VIDEO 2 AND 3.

*2 IC941 CONTROL LOGIC

PIN 13 AND 12	FUNCTION
H	TV
L	OTHERS

IC941	TC4066BP
IC942	TC4052BP
Q941-944	2SC1740S
D941-950	RD13ESB

PINP SELECTOR ASSEMBLY (AWZ4188)


IC571 : PINP SUB-PICTURE SELECTOR
IC571
IC572
BUFFER
BIAS
Q571 : OUTPUT BUFFER
Y1
Y2
4.2 (1)①, ② AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A7
4.2 (1)①, ② AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A8

IC571,572	NJM2234L
Q571	2SA933S
D571-580	1SS252

*1 TRUTH TABLE OF CONNECTOR Y2.

OUT	PF1	PF2	PF3
LD	H	L	L
VIDEO 1	L	H	L
VIDEO 2*	L	L	L
VIDEO 3*	—	L	H
TV	H	H	L

H=5V
L=0V

*:62 FAMILY HAVE NOT VIDEO 2 AND 3.

Y/C SELECTOR, AUDIO SELECTOR AND PINP SELECTOR ASSEMBLIES
□:DC voltage (V) at color bar signal input without notice.

4.4 TUNER–VIDEO AND VIDEO INPUT ASSEMBLIES

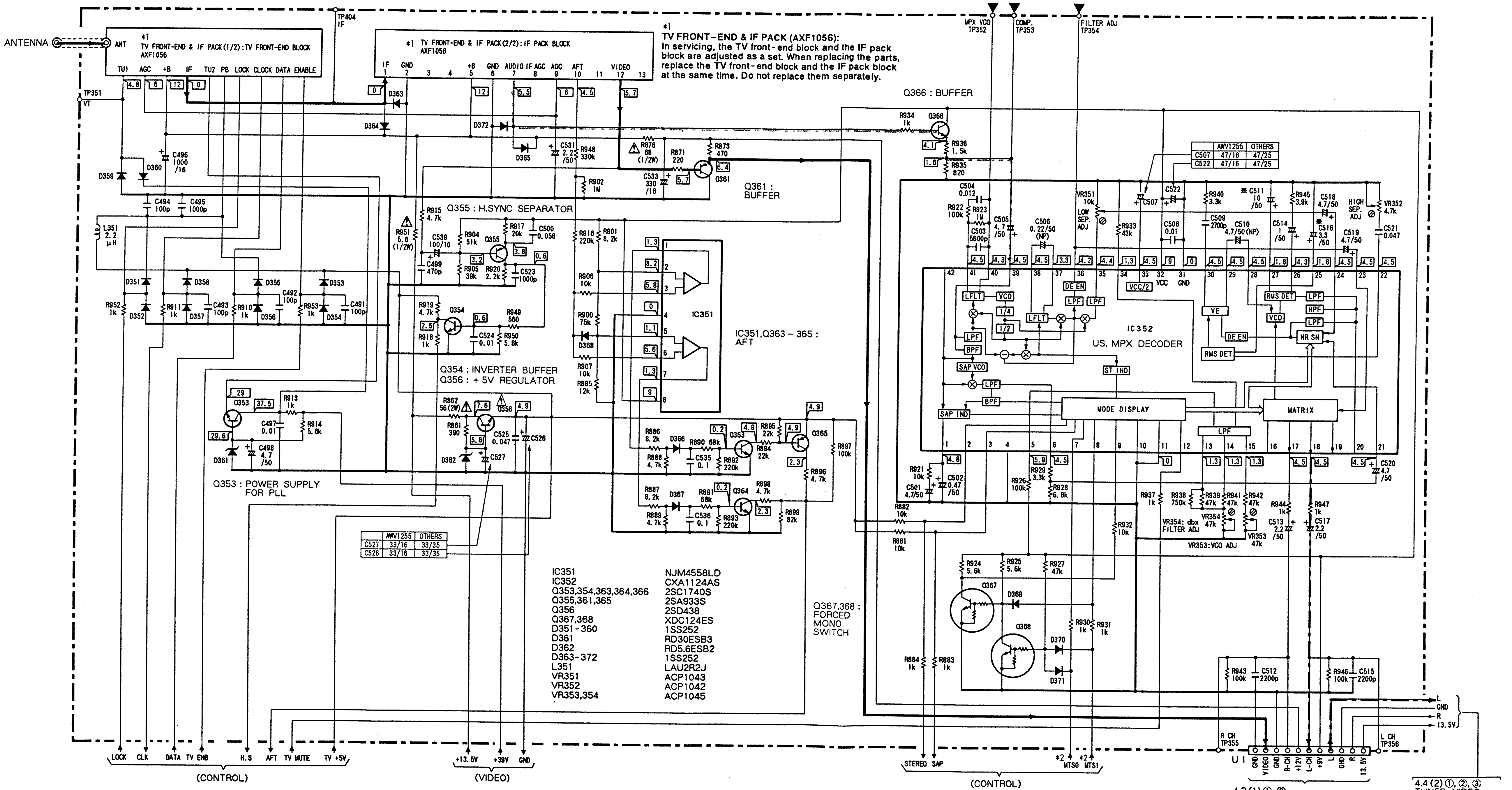
(1) TUNER–VIDEO ASSEMBLY (1/4 : TUNER SECTION)

Note: Abbreviation listed indicate circuit connections.

VIDEO :4.4(3)①,② TUNER–VIDEO ASSEMBLY(3/4)
CONTROL:4.4(4)①–③TUNER–VIDEO ASSEMBLY(4/4)

TUNER-VIDEO ASSEMBLY (1/4) (AWV1246),(AWV1252),(AWV1255),
(AWV1261),(AWV1265)

● TUNER SECTION


ANTENNA
ANT
*1 TV FRONT-END & IF PACK(1/2):TV FRONT-END BLOCK AXF1056
TU1 AGC +B IF TU2 PB LOCK CLOCK DATA ENABLE
*1 TV FRONT-END & IF PACK(2/2):IF PACK BLOCK AXF1056
IF GND +B GND AUDIO IF AGC AGC AFT VIDEO
TP404 IF
TP351 VT
Q355 : H.SYNC SEPARATOR
Q354 : INVERTER BUFFER
Q356 : +5V REGULATOR
Q353 : POWER SUPPLY FOR PLL
IC351
IC351,Q363 – 365 : AFT
Q361 : BUFFER
Q366 : BUFFER
MPX VCO TP352
COMP. TP353
FILTER ADJ TP354
VR351 LOW SEP. ADJ
HIGH SEP. ADJ VR352
IC352
US. MPX DECODER
MODE DISPLAY
MATRIX
VR354: dbx FILTER ADJ
VR353:VCO ADJ
Q367,368 : FORCED MONO SWITCH
LOCK CLK DATA TV ENB H.S AFT TV MUTE TV +5V
(CONTROL)
+13.5V +39V GND
(VIDEO)
STEREO SAP *2 MTS0 *2 MTS1
(CONTROL)
R CH TP355
L CH TP356
U 1
GND VIDEO GND R-CH +12V L-CH +9V L GND R 13.5V
L GND R 13.5V
4.2 (1) ①, ② AV I/O – PINP – Y/C SEP ASSEMBLY (1/3) A3
4.4 (2) ①, ②, ③ TUNER-VIDEO ASSEMBLY (2/ 4)

*1
TV FRONT–END & IF PACK (AXF1056):
In servicing, the TV front-end block and the IF pack block are adjusted as a set. When replacing the parts, replace the TV front-end block and the IF pack block at the same time. Do not replace them separately.

	AWV1255	OTHERS
C507	47/16	47/25
C522	47/16	47/25

	AWV1255	OTHERS
C527	33/16	33/35
C526	33/16	33/35

IC351	NJM4558LD
IC352	CXA1124AS
Q353,354,363,364,366	2SC1740S
Q355,361,365	2SA933S
Q356	2SD438
Q367,368	XDC124ES
D351 - 360	1SS252
D361	RD30ESB3
D362	RD5.6ESB2
D363 - 372	1SS252
L351	LAU2R2J
VR351	ACP1043
VR352	ACP1042
VR353,354	ACP1045

*2
TRUTH TABLE OF MTS0 AND MTS1.

MTS DISP.	MTS0	MTS1
MAIN	H	L
SAP	L	H
MAIN/SAP	L	L
MONO	H	H

▭ : DC voltage (V) at 9 ch color bar signal input.

(2) TUNER-VIDEO ASSEMBLY (2/4 : AUDIO SECTION)

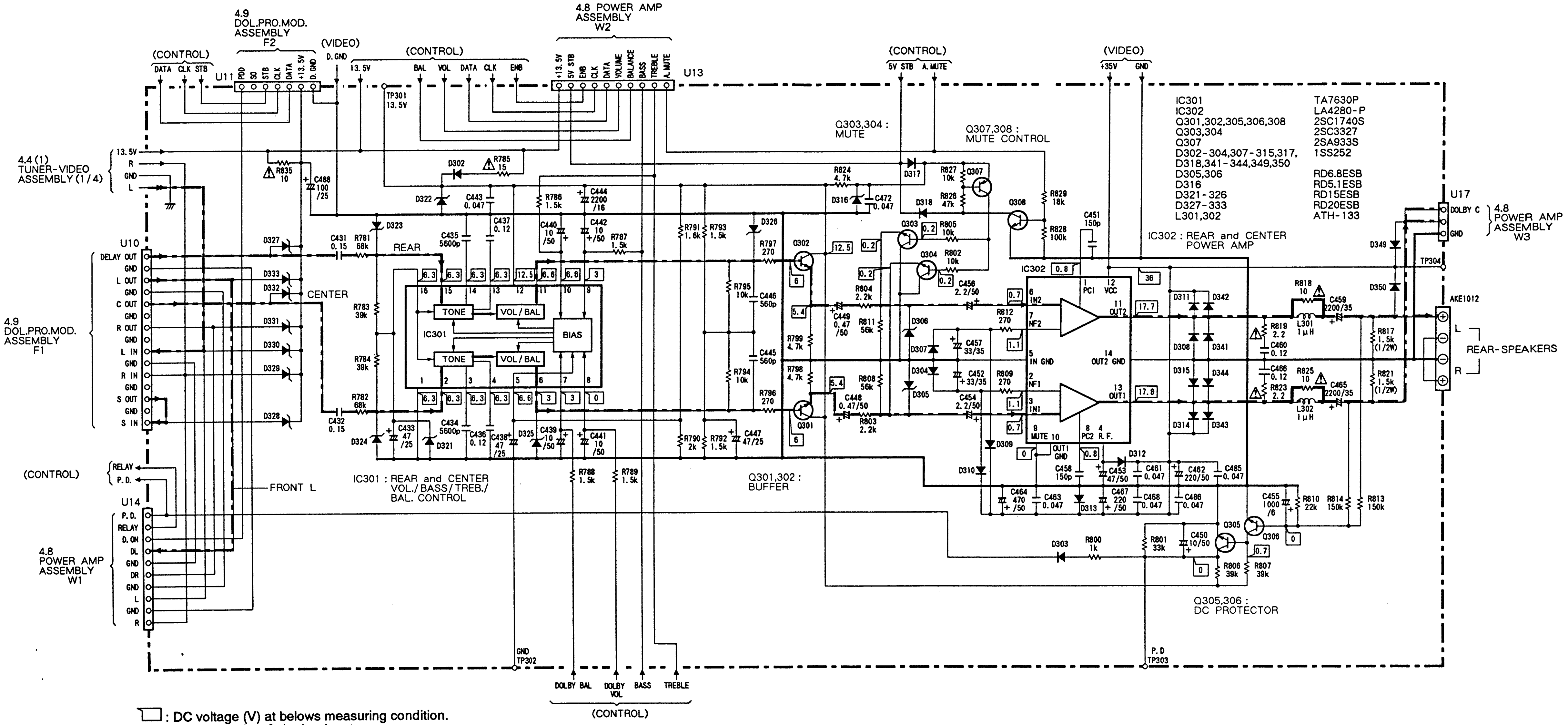
① AWV1246 and AWV1252

Note: Abbreviation listed indicate circuit connections.

VIDEO : 4.4(3)① TUNER-VIDEO ASSEMBLY(3/4)
CONTROL: 4.4(4)① TUNER-VIDEO ASSEMBLY(4/4)

TUNER-VIDEO ASSEMBLY (2/4) (AWV1246), (AWV1252)

- **AUDIO SECTION**


4.9 DOL.PRO.MOD. ASSEMBLY F2
4.8 POWER AMP ASSEMBLY W2
(CONTROL)
(VIDEO)
DATA CLK STB
U11
PDD SO STB CLK DATA +13.5V D.GND
D.GND
13.5V
BAL VOL DATA CLK ENB
+13.5V 5V STB ENB CLK DATA VOLUME BALANCE BASS TREBLE A.MUTE
U13
5V STB A.MUTE
+35V GND
TP301 13.5V
4.4 (1) TUNER-VIDEO ASSEMBLY (1/4)
13.5V R GND L
U10
DELAY OUT GND L OUT GND C OUT GND R OUT GND L IN GND R IN GND S OUT GND S IN
4.9 DOL.PRO.MOD. ASSEMBLY F1
REAR
CENTER
FRONT L
IC301
TONE VOL/BAL BIAS
(CONTROL)
RELAY P.D.
U14
P.D. RELAY D.ON DL GND DR GND L GND R
4.8 POWER AMP ASSEMBLY W1
IC301 : REAR and CENTER VOL./BASS/TREB./ BAL. CONTROL
Q301,302 : BUFFER
Q303,304 : MUTE
Q307,308 : MUTE CONTROL
IC302 : REAR and CENTER POWER AMP
IC302
PC1 VCC IN2 NF2 OUT2 IN GND OUT2 GND NF1 IN1 OUT1 MUTE PC2 R.F.
Q305,306 : DC PROTECTOR
U17
DOLBY C GND
4.8 POWER AMP ASSEMBLY W3
TP304
AKE1012
L R
REAR-SPEAKERS
GND TP302
P.D TP303
DOLBY BAL DOLBY VOL BASS TREBLE
(CONTROL)

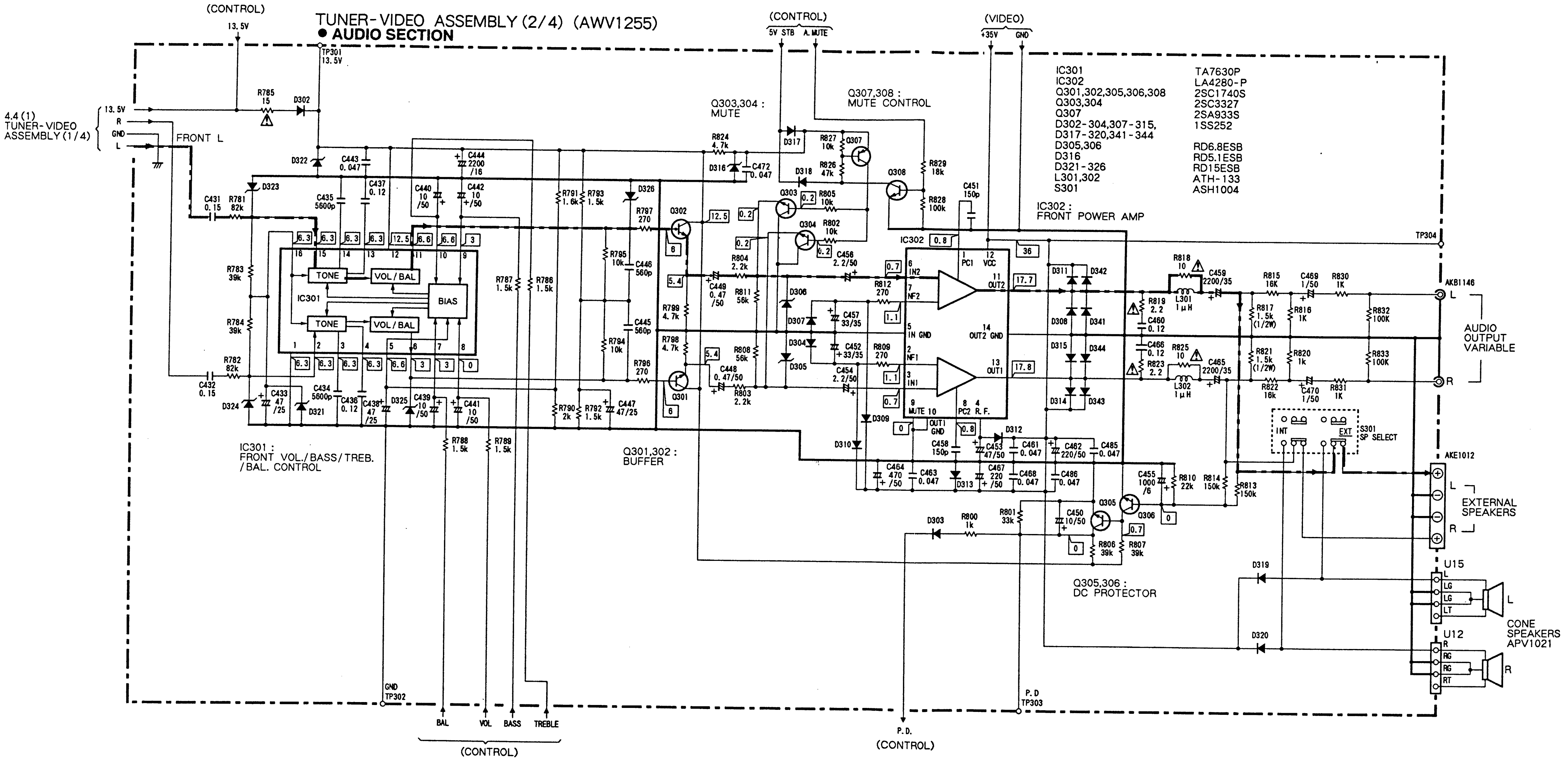
IC301	TA7630P
IC302	LA4280-P
Q301,302,305,306,308	2SC1740S
Q303,304	2SC3327
Q307	2SA933S
D302-304,307-315,317, D318,341-344,349,350	1SS252
D305,306	RD6.8ESB
D316	RD5.1ESB
D321-326	RD15ESB
D327-333	RD20ESB
L301,302	ATH-133

☐ : DC voltage (V) at belows measuring condition.
Video signal : Color bar input
Audio signal : No input
VOL : 0

② AWV1255

Note: Abbreviation listed indicate circuit connections.

VIDEO	: 4.4(3)② TUNER-VIDEO ASSEMBLY(3/4)
CONTROL:	4.4(4)② TUNER-VIDEO ASSEMBLY(4/4)

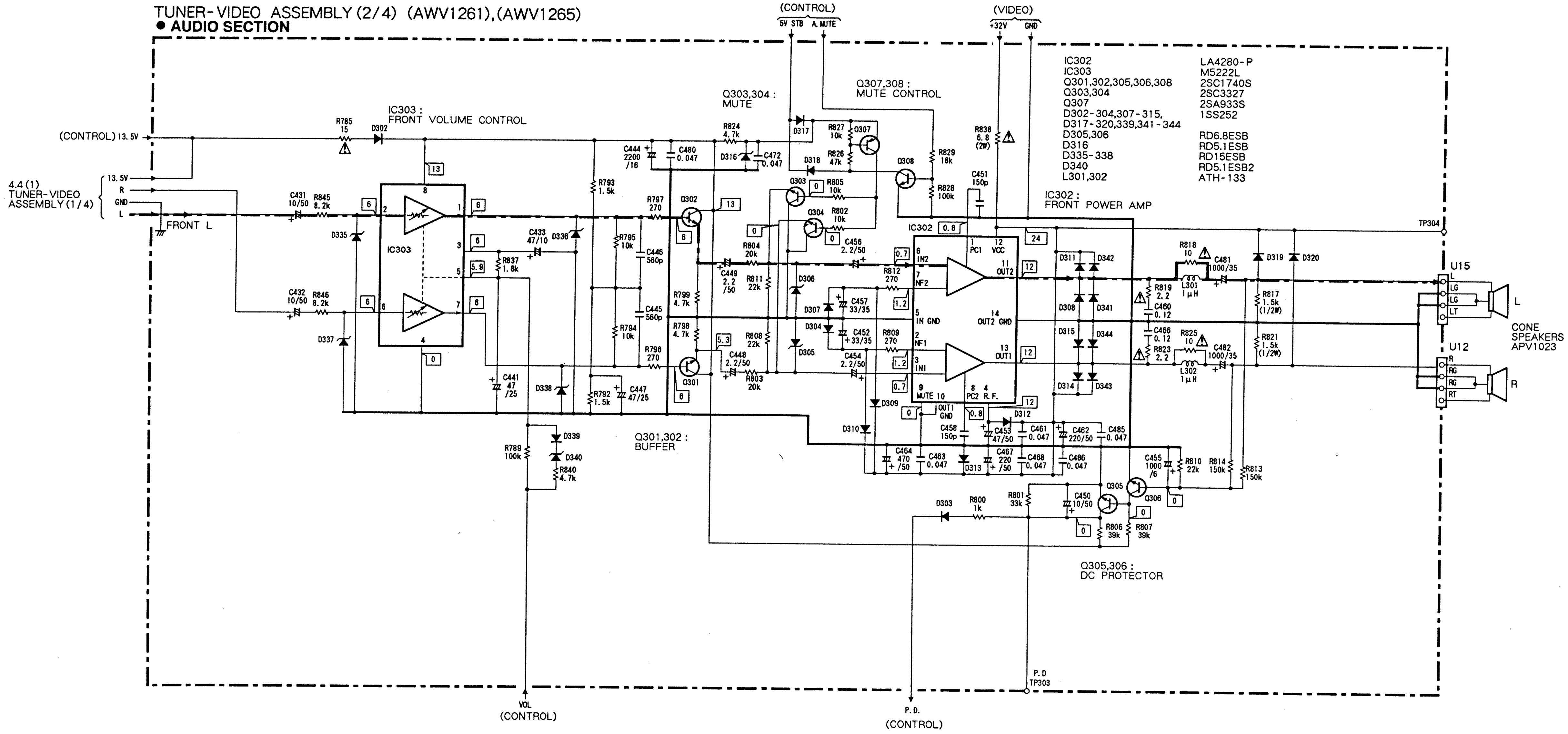

TUNER-VIDEO ASSEMBLY (2/4) (AWV1255)
● AUDIO SECTION
(CONTROL)
13.5V
TP301 13.5V
4.4(1) TUNER-VIDEO ASSEMBLY(1/4)
13.5V
R
GND
L
FRONT L
R785 15
D302
D322
D323
D324
D321
D325
D326
C443 0.047
C444 2200/16
C437 0.12
C435 5600p
C440 10/50
C442 10/50
C431 0.15
R781 82k
R783 39k
R784 39k
R782 82k
C432 0.15
C433 47/25
C434 5600p
C436 0.12
C438 47/25
C439 10/50
C441 10/50
TONE
VOL/BAL
BIAS
IC301
IC301 : FRONT VOL./BASS/TREB. /BAL. CONTROL
R787 1.5k
R786 1.5k
R788 1.5k
R789 1.5k
R791 1.6k
R793 1.5k
R795 10k
R794 10k
R790 2k
R792 1.5k
R797 270
R796 270
R799 4.7k
R798 4.7k
C446 560p
C445 560p
C447 47/25
Q302
Q301
Q301,302 : BUFFER
Q303,304 : MUTE
R824 4.7k
D316
C472 0.047
D317
D318
R827 10k
R826 47k
Q307
Q307,308 : MUTE CONTROL
Q308
R829 18k
R828 100k
C451 150p
Q303
Q304
R805 10k
R802 10k
C456 2.2/50
C449 0.47/50
R804 2.2k
R811 56k
R808 56k
C448 0.47/50
R803 2.2k
D306
D307
D304
D305
C457 33/35
C452 33/35
C454 2.2/50
R812 270
R809 270
D309
D310
(CONTROL)
5V STB
A.MUTE
(VIDEO)
+35V
GND
IC301 TA7630P
IC302 LA4280-P
Q301,302,305,306,308 2SC1740S
Q303,304 2SC3327
Q307 2SA933S
D302-304,307-315, D317-320,341-344 1SS252
D305,306 RD6.8ESB
D316 RD5.1ESB
D321-326 RD15ESB
L301,302 ATH-133
S301 ASH1004
IC302 : FRONT POWER AMP
IC302
IN2
NF2
IN GND
NF1
IN1
MUTE
OUT1 GND
PC1 VCC
OUT2
OUT2 GND
OUT1
PC2 R.F.
C458 150p
C453 47/50
C461 0.047
C462 220/50
C485 0.047
C464 470/50
C463 0.047
D313
C467 220/50
C468 0.047
C486 0.047
D312
D311
D342
D308
D341
D315
D344
D314
D343
R818 10
C459 2200/35
R819 2.2
L301 1μH
C460 0.12
C466 0.12
R825 10
C465 2200/35
R823 2.2
L302 1μH
R815 16K
R817 1.5k (1/2W)
C469 1/50
R816 1K
R830 1K
R832 100K
R821 1.5k (1/2W)
R820 1k
R822 16k
C470 1/50
R831 1K
R833 100K
TP304
AKB1146
L
R
AUDIO OUTPUT VARIABLE
S301 SP SELECT
INT
EXT
AKE1012
EXTERNAL SPEAKERS
C455 1000/6
R810 22k
R814 150k
R813 150k
Q305
Q306
C450 10/50
R806 39k
R807 39k
R801 33k
R800 1k
D303
Q305,306 : DC PROTECTOR
D319
D320
U15
L LG LG LT
U12
R RG RG RT
CONE SPEAKERS APV1021
GND TP302
BAL VOL BASS TREBLE
(CONTROL)
P.D TP303
P.D.
(CONTROL)
6.3 6.3 6.3 6.3 12.5 6.6 6.6 3
6.3 6.3 6.3 6.3 6.6 3 3 0
12.5 0.2 0.2 0.2 5.4 5.4 6 6
0.7 1.1 1.1 0.7 0.8 36 17.7 17.8 0.8 0 0 0.7 0

□ : DC voltage (V) at belows measuring condition.
Video signal : Color bar input
Audio signal : No input
VOL : 0

③AWV1261 and AWV1265

Note: Abbreviation listed indicate circuit connections.

VIDEO	: 4.4(3)② TUNER–VIDEO ASSEMBLY(3/4)
CONTROL	: 4.4(4)③ TUNER–VIDEO ASSEMBLY(4/4)

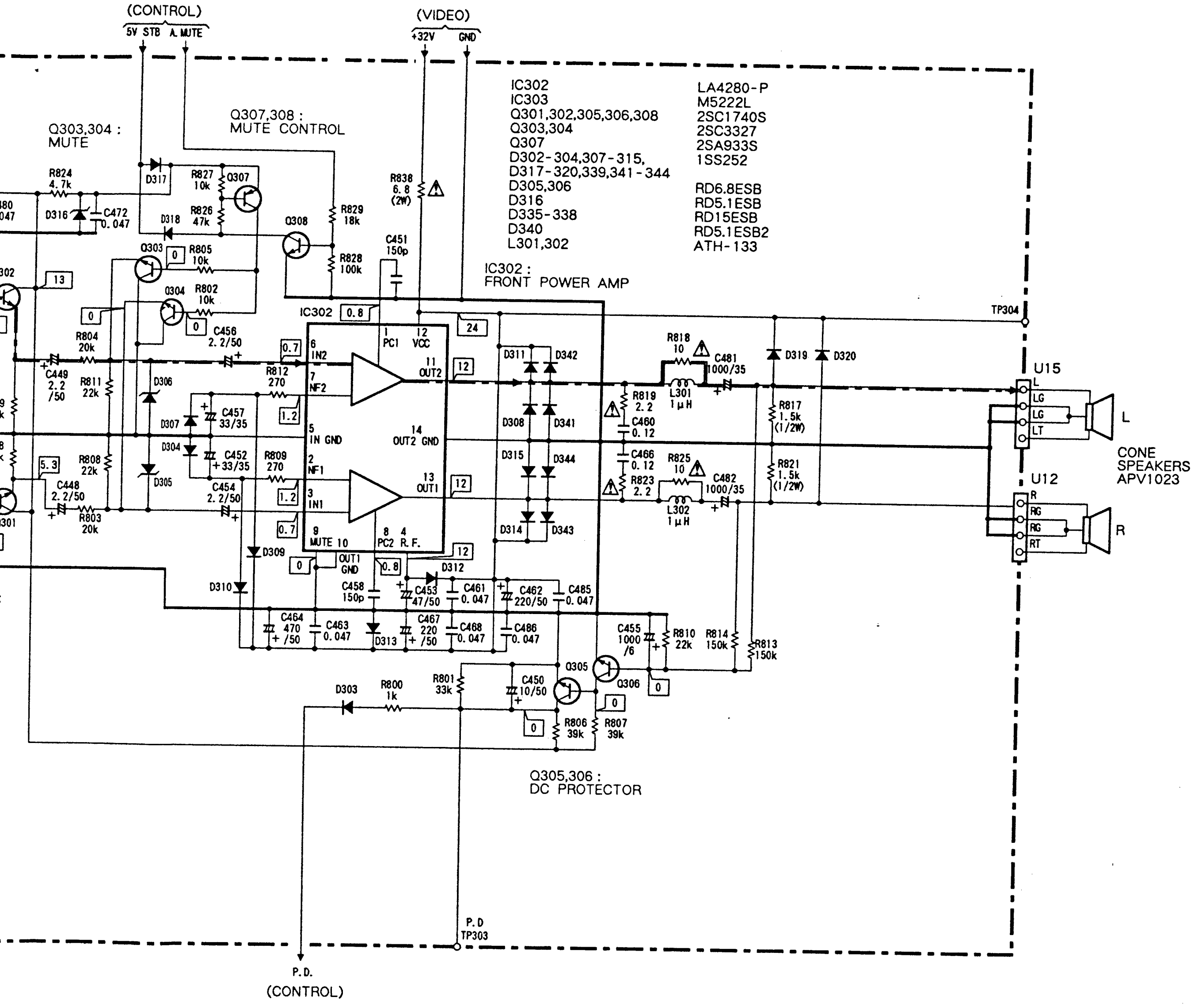

TUNER-VIDEO ASSEMBLY (2/4) (AWV1261),(AWV1265)
● AUDIO SECTION
(CONTROL)
5V STB
A. MUTE
(VIDEO)
+32V
GND
(CONTROL) 13.5V
4.4 (1)
TUNER-VIDEO
ASSEMBLY (1/4)
13.5V
R
GND
L
FRONT L
IC303 :
FRONT VOLUME CONTROL
IC303
R785
15
D302
C431 10/50
R845 8.2k
C432 10/50
R846 8.2k
D335
D337
C433 47/10
D336
R837 1.8k
C441 47 /25
D338
R789 100k
D339
D340
R840 4.7k
R793 1.5k
R795 10k
R794 10k
R792 1.5k
C447 47/25
C444 2200 /16
C480 0.047
C446 560p
C445 560p
R797 270
R796 270
Q302
Q301
Q301,302 :
BUFFER
R799 4.7k
R798 4.7k
Q303,304 :
MUTE
R824 4.7k
D316
C472 0.047
D317
D318
R827 10k
R826 47k
Q307
Q307,308 :
MUTE CONTROL
Q308
R829 18k
R828 100k
Q303
Q304
R805 10k
R802 10k
R804 20k
R811 22k
C449 2.2 /50
R808 22k
C448 2.2/50
R803 20k
D306
D307
D304
D305
C457 33/35
C452 33/35
C456 2.2/50
C454 2.2/50
R812 270
R809 270
D309
D310
R838 6.8 (2W)
C451 150p
IC302 :
FRONT POWER AMP
IC302
IN2
NF2
IN GND
NF1
IN1
MUTE
PC1
VCC
OUT2
OUT2 GND
OUT1
PC2
R.F.
OUT1 GND
C458 150p
C453 47/50
D312
C461 0.047
C462 220/50
C485 0.047
C464 470 /50
C463 0.047
D313
C467 220 /50
C468 0.047
C486 0.047
D311
D342
D308
D341
D315
D344
D314
D343
R818 10
C481 1000/35
L301 1μH
R819 2.2
C460 0.12
C466 0.12
R825 10
R823 2.2
C482 1000/35
L302 1μH
D319
D320
R817 1.5k (1/2W)
R821 1.5k (1/2W)
TP304
U15
L
LG
LT
U12
R
RG
RT
CONE SPEAKERS APV1023
C455 1000 /6
R810 22k
R814 150k
R813 150k
Q305
Q306
C450 10/50
R801 33k
R800 1k
D303
R806 39k
R807 39k
Q305,306 :
DC PROTECTOR
P.D
TP303
VOL
(CONTROL)
P.D.
(CONTROL)
13
6
5.9
5.3
0.7
1.2
0.8
24
12
0

IC302	LA4280-P
IC303	M5222L
Q301,302,305,306,308	2SC1740S
Q303,304	2SC3327
Q307	2SA933S
D302-304,307-315, D317-320,339,341-344	1SS252
D305,306	RD6.8ESB
D316	RD5.1ESB
D335-338	RD15ESB
D340	RD5.1ESB2
L301,302	ATH-133

▭ : DC voltage (V) at belows measuring condition.
Video signal : Color bar input
Audio signal : No input
VOL : 0

Note: Abbreviation listed indicate circuit connections.

VIDEO	: 4.4(3) ② TUNER-VIDEO ASSEMBLY(3/4)
CONTROL:	4.4(4) ③ TUNER-VIDEO ASSEMBLY(4/4)


(CONTROL)
5V STB
A. MUTE
(VIDEO)
+32V
GND
IC302 LA4280-P
IC303 M5222L
Q301,302,305,306,308 2SC1740S
Q303,304 2SC3327
Q307 2SA933S
D302-304,307-315, D317-320,339,341-344 1SS252
D305,306 RD6.8ESB
D316 RD5.1ESB
D335-338 RD15ESB
D340 RD5.1ESB2
L301,302 ATH-133
Q303,304 : MUTE
Q307,308 : MUTE CONTROL
IC302 : FRONT POWER AMP
Q305,306 : DC PROTECTOR
R824 4.7k
D317
R827 10k
Q307
R826 47k
D318
D316
C472 0.047
Q303
R805 10k
Q304
R802 10k
Q308
R829 18k
R828 100k
R838 6.8 (2W)
C451 150p
IC302
TP304
R804 20k
C456 2.2/50
C449 2.2/50
R811 22k
D306
R812 270
IN2
NF2
PC1
VCC
OUT2
IN GND
OUT2 GND
NF1
IN1
OUT1
MUTE
PC2
R.F.
OUT1 GND
C457 33/35
D307
D304
C452 33/35
R809 270
D305
C454 2.2/50
R808 22k
C448 2.2/50
R803 20k
D309
D310
C458 150p
C453 47/50
D312
C461 0.047
C462 220/50
C485 0.047
C464 470/50
C463 0.047
D313
C467 220/50
C468 0.047
C486 0.047
D311
D342
D308
D341
D315
D344
D314
D343
R818 10
C481 1000/35
L301 1μH
R819 2.2
C460 0.12
C466 0.12
R825 10
C482 1000/35
R823 2.2
L302 1μH
D319
D320
R817 1.5k (1/2W)
R821 1.5k (1/2W)
U15
L
LG
LT
U12
R
RG
RT
CONE SPEAKERS APV1023
C455 1000/6
R810 22k
R814 150k
R813 150k
Q305
Q306
D303
R800 1k
R801 33k
C450 10/50
R806 39k
R807 39k
P.D TP303
P.D.
(CONTROL)

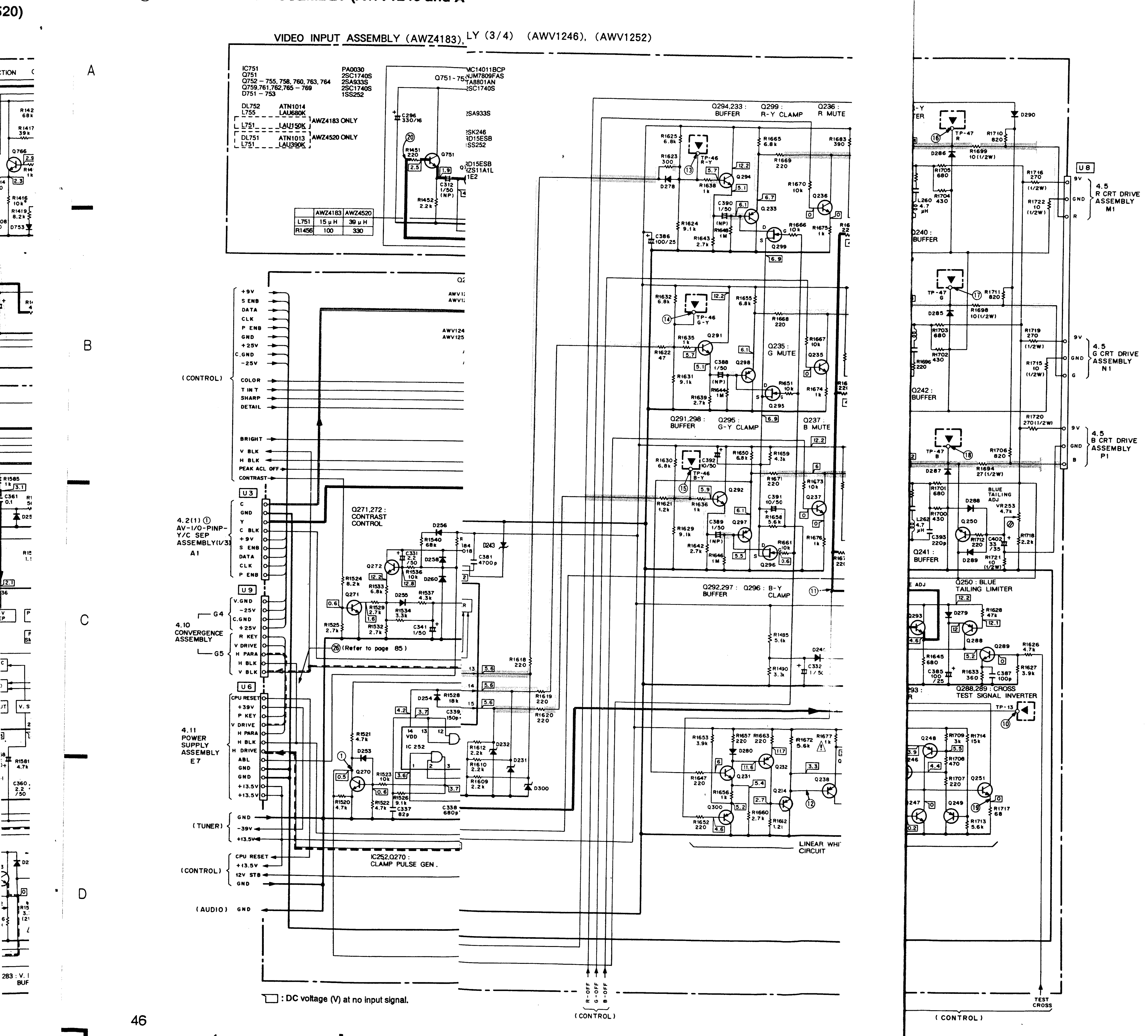
TUNER-VIDEO ASSEMBLY, VIDEO INPUT ASSEMBLY

(3) TUNER–VIDEO ASSEMBLY (3/4 :VIDEO SEC

① TUNER–VIDEO ASSEMBLY (AWV1246 and A

Note: Abbreviation listed indicate circuit connections.

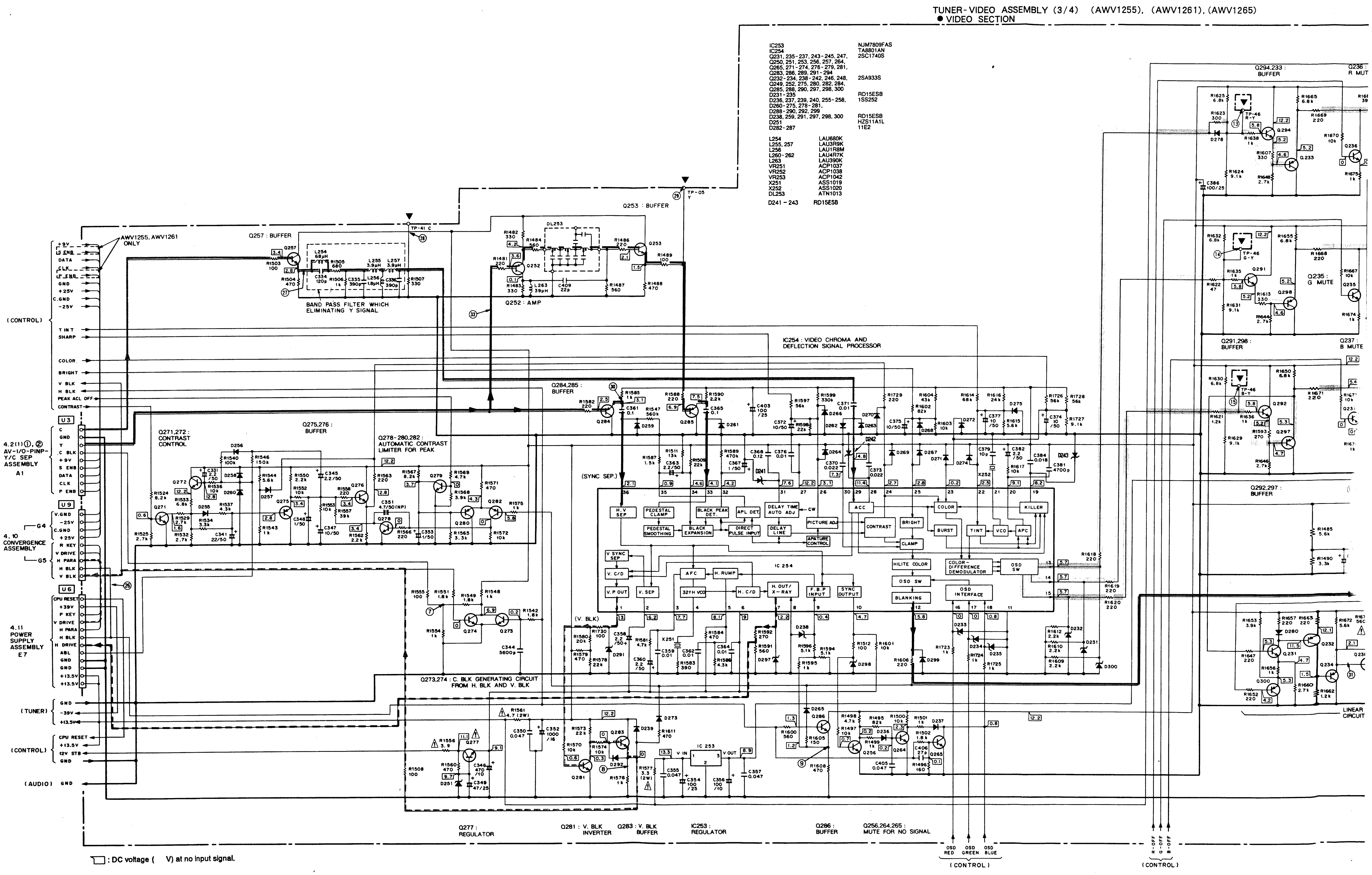
TUNER	: 4.4 (1)	TUNER–VIDEO ASSEMBLY(1/4)
AUDIO	: 4.4 (2) ①	TUNER–VIDEO ASSEMBLY(2/4)
CONTROL:	4.4 (4) ①	TUNER–VIDEO ASSEMBLY(4/4)



VIDEO INPUT ASSEMBLY (AWZ4183), LY (3/4) (AWV1246), (AWV1252)
IC751 PA0030
Q751 2SC1740S
Q752 – 755, 758, 760, 763, 764 2SA933S
Q759,761,762,765 – 769 2SC1740S
D751 – 753 1SS252
DL752 ATN1014
L755 LAU680K
L751 LAU150K AWZ4183 ONLY
DL751 ATN1013
L751 LAU390K AWZ4520 ONLY
AWZ4183 AWZ4520
L751 15 μH 39 μH
R1456 100 330
Q294,233 : BUFFER
Q299 : R-Y CLAMP
Q236 : R MUTE
Q235 : G MUTE
Q291,298 : BUFFER
Q295 : G-Y CLAMP
Q237 B MUTE
Q292,297 : BUFFER
Q296 : B-Y CLAMP
Q271,272 : CONTRAST CONTROL
IC252,Q270 : CLAMP PULSE GEN.
LINEAR WHI CIRCUIT
Q240 : BUFFER
Q242 : BUFFER
Q241 : BUFFER
Q250 : BLUE TAILING LIMITER
Q288,289 : CROSS TEST SIGNAL INVERTER
BLUE TAILING ADJ VR253 4.7k
4.5 R CRT DRIVE ASSEMBLY M1
4.5 G CRT DRIVE ASSEMBLY N1
4.5 B CRT DRIVE ASSEMBLY P1
U8
(CONTROL)
4.2(1) ① AV-I/O-PINP-Y/C SEP ASSEMBLY(1/3) A1
4.10 CONVERGENCE ASSEMBLY G4 G5
4.11 POWER SUPPLY ASSEMBLY E7
(TUNER)
(AUDIO)
U3
U9
U6
(26) (Refer to page 85)
TEST CROSS
R-OFF G-OFF B-OFF

▭ : DC voltage (V) at no input signal.

② TUNER–VIDEO ASSEMBLY (AWV1255, AWV1261 and AWV1265)


TUNER-VIDEO ASSEMBLY (3/4) (AWV1255), (AWV1261), (AWV1265)
● VIDEO SECTION
Q257 : BUFFER
Q253 : BUFFER
Q252 : AMP
BAND PASS FILTER WHICH ELIMINATING Y SIGNAL
TP-41 C
TP-05 Y
AWV1255, AWV1261 ONLY
(CONTROL)
+9V
LS ENB
DATA
CLK
LP ENB
GND
+25V
C.GND
-25V
TINT
SHARP
COLOR
BRIGHT
V BLK
H BLK
PEAK ACL OFF
CONTRAST
4.2(1)①, ② AV-I/O-PINP-Y/C SEP ASSEMBLY A1
4.10 CONVERGENCE ASSEMBLY
4.11 POWER SUPPLY ASSEMBLY E7
(TUNER)
(AUDIO)
Q271,272 : CONTRAST CONTROL
Q275,276 : BUFFER
Q278-280,282 : AUTOMATIC CONTRAST LIMITER FOR PEAK
Q284,285 : BUFFER
IC254 : VIDEO CHROMA AND DEFLECTION SIGNAL PROCESSOR
(SYNC SEP.)
H. V SEP
PEDESTAL CLAMP
PEDESTAL SMOOTHING
BLACK PEAK DET.
BLACK EXPANSION
APL DET
DIRECT PULSE INPUT
DELAY TIME AUTO ADJ
DELAY LINE
PICTURE ADJ
APATURE CONTROL
ACC
CONTRAST
BRIGHT
CLAMP
COLOR
BURST
TINT
VCO
APC
KILLER
V SYNC SEP
V. C/D
V. P OUT
V. SEP
AFC
H. RUMP
321H VCO
H. C/D
H. OUT/ X-RAY
F. B. P INPUT
SYNC OUTPUT
HILITE COLOR
OSD SW
BLANKING
COLOR-DIFFERENCE DEMODULATOR
OSD INTERFACE
IC 254
(V. BLK)
Q273,274 : C. BLK GENERATING CIRCUIT FROM H. BLK AND V. BLK
IC 253
V IN
V OUT
Q277 : REGULATOR
Q281 : V. BLK INVERTER
Q283 : V. BLK BUFFER
IC253 : REGULATOR
Q286 : BUFFER
Q256,264,265 : MUTE FOR NO SIGNAL
OSD RED
OSD GREEN
OSD BLUE
(CONTROL)
R-OFF
G-OFF
B-OFF
Q294,233 : BUFFER
Q236 : R MUTE
Q291,298 : BUFFER
Q235 : G MUTE
Q237 : B MUTE
Q292,297 : BUFFER
TP-46 R-Y
TP-46 G-Y
TP-46 B-Y
LINEAR CIRCUIT
1
2
3
4
5
6
A
B
C
D

IC253	NJM7809FAS
IC254	TA8801AN
Q231, 235-237, 243-245, 247, Q250, 251, 253, 256, 257, 264, Q265, 271-274, 276-279, 281, Q283, 286, 289, 291-294	2SC1740S
Q232-234, 238-242, 246, 248, Q249, 252, 275, 280, 282, 284, Q285, 288, 290, 297, 298, 300	2SA933S
D231-235	RD15ESB
D236, 237, 239, 240, 255-258, D260-275, 278-281, D288-290, 292, 299	1SS252
D238, 259, 291, 297, 298, 300	RD15ESB
D251	HZS11A1L
D282-287	11E2

L254	LAU680K
L255, 257	LAU3R9K
L256	LAU1R8M
L260-262	LAU4R7K
L263	LAU390K
VR251	ACP1037
VR252	ACP1038
VR253	ACP1042
X251	ASS1019
X252	ASS1020
DL253	ATN1013
D241 – 243	RD15ESB

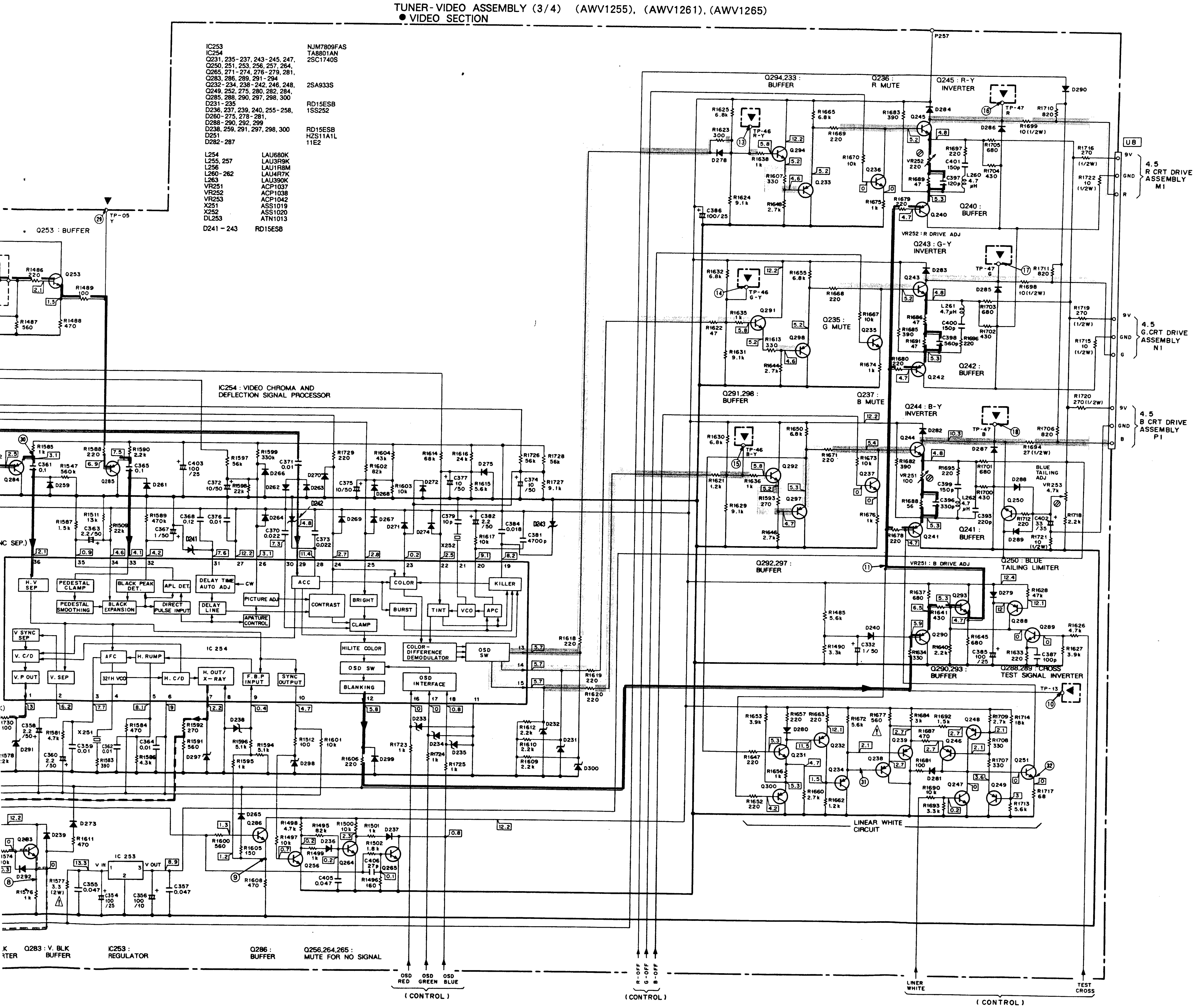
□ : DC voltage (V) at no input signal.

TUNER-VIDEO ASSEMBLY

Note: Abbreviation listed indicate circuit connections.

TUNER	: 4.4 (1)	TUNER-VIDEO ASSEMBLY(1/4)
AUDIO	: 4.4 (2) ②, ③	TUNER-VIDEO ASSEMBLY(2/4)
CONTROL	: 4.4 (4) ②, ③	TUNER-VIDEO ASSEMBLY(4/4)

TUNER-VIDEO ASSEMBLY (3/4) (AWV1255), (AWV1261), (AWV1265)
● VIDEO SECTION



IC253	NJM7809FAS
IC254	TA8801AN
Q231, 235-237, 243-245, 247, Q250, 251, 253, 256, 257, 264, Q265, 271-274, 276-279, 281, Q283, 286, 289, 291-294	2SC1740S
Q232-234, 238-242, 246, 248, Q249, 252, 275, 280, 282, 284, Q285, 288, 290, 297, 298, 300	2SA933S
D231-235	RD15ESB
D236, 237, 239, 240, 255-258, D260-275, 278-281, D288-290, 292, 299	1SS252
D238, 259, 291, 297, 298, 300	RD15ESB
D251	HZS11A1L
D282-287	11E2
L254	LAU680K
L255, 257	LAU3R9K
L256	LAU1R8M
L260-262	LAU4R7K
L263	LAU390K
VR251	ACP1037
VR252	ACP1038
VR253	ACP1042
X251	ASS1019
X252	ASS1020
DL253	ATN1013
D241 - 243	RD15ESB

4
5
6
7
8
9
A
B
C
D
IC254 : VIDEO CHROMA AND DEFLECTION SIGNAL PROCESSOR
IC 254
Q253 : BUFFER
Q294,233 : BUFFER
Q236 : R MUTE
Q245 : R-Y INVERTER
Q240 : BUFFER
VR252 : R DRIVE ADJ
Q243 : G-Y INVERTER
Q235 : G MUTE
Q242 : BUFFER
Q291,298 : BUFFER
Q237 : B MUTE
Q244 : B-Y INVERTER
Q241 : BUFFER
BLUE TAILING ADJ
VR251 : B DRIVE ADJ
Q250 : BLUE TAILING LIMITER
Q292,297 : BUFFER
Q290,293 : BUFFER
Q288,289 : CROSS TEST SIGNAL INVERTER
LINEAR WHITE CIRCUIT
4.5 R CRT DRIVE ASSEMBLY M1
4.5 G.CRT DRIVE ASSEMBLY N1
4.5 B CRT DRIVE ASSEMBLY P1
U8
9V
GND
R
G
B
TP-46 R-Y
TP-46 G-Y
TP-46 B-Y
TP-47 R
TP-47 G
TP-47 B
TP-13
TP-05 Y
P257
H.V SEP
PEDESTAL CLAMP
PEDESTAL SMOOTHING
BLACK PEAK DET.
BLACK EXPANSION
APL DET.
DIRECT PULSE INPUT
DELAY TIME AUTO ADJ
DELAY LINE
PICTURE ADJ
APERTURE CONTROL
ACC
CONTRAST
BRIGHT
CLAMP
COLOR
BURST
TINT
VCO
APC
KILLER
HILITE COLOR
COLOR-DIFFERENCE DEMODULATOR
OSD SW
OSD SW
BLANKING
OSD INTERFACE
V SYNC SEP
V. C/D
V.P OUT
V. SEP
AFC
H. RUMP
32fH VCO
H. C/D
H. OUT/ X-RAY
F.B.P INPUT
SYNC OUTPUT
IC 253
V IN
V OUT
K RTER
Q283 : V. BLK BUFFER
IC253 : REGULATOR
Q286 : BUFFER
Q256,264,265 : MUTE FOR NO SIGNAL
OSD RED
OSD GREEN
OSD BLUE
(CONTROL)
R-OFF
G-OFF
B-OFF
(CONTROL)
LINER WHITE
TEST CROSS
(CONTROL)

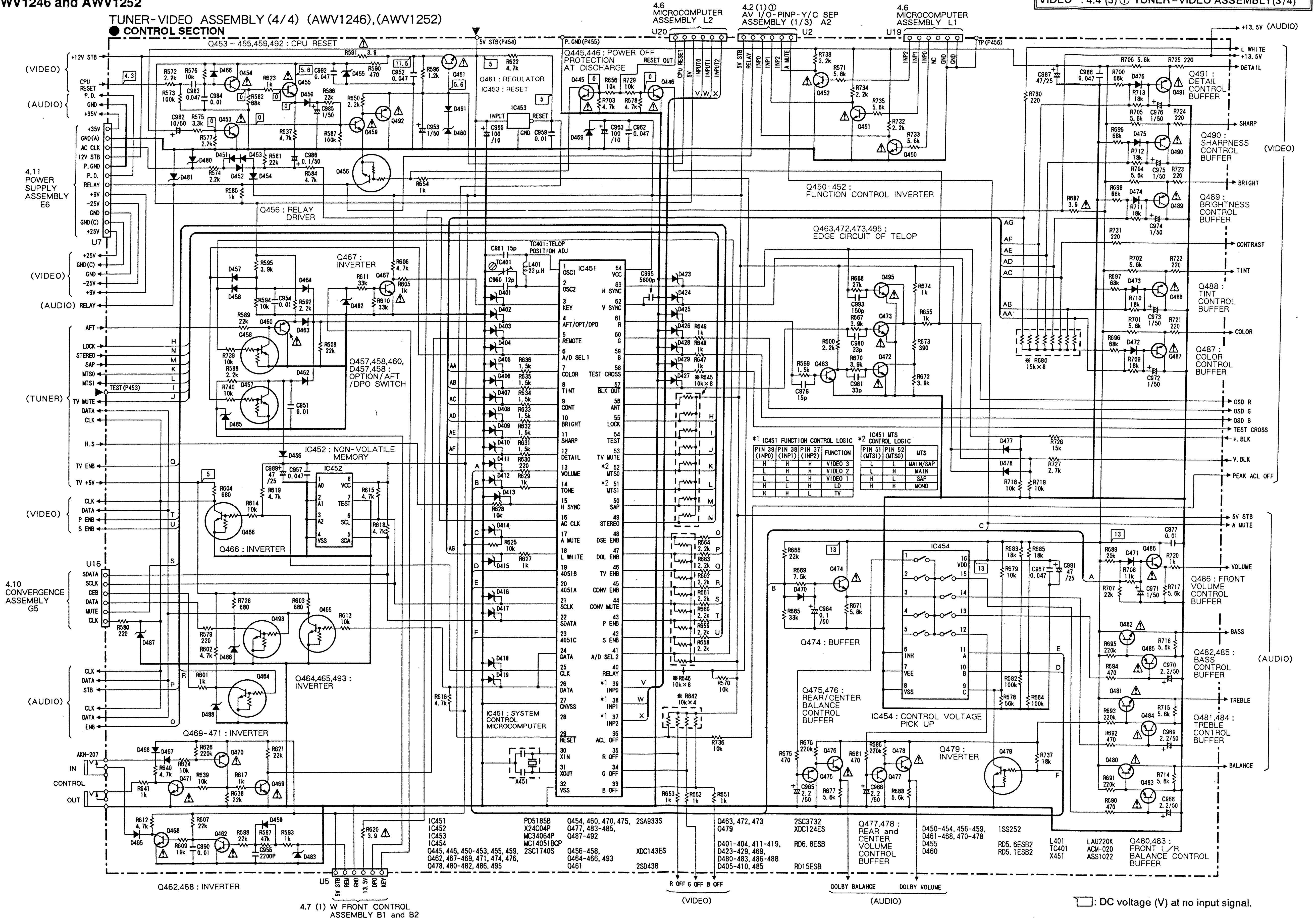
(4) TUNER–VIDEO ASSEMBLY (4/4 : CONTROL SECTION)

① AWV1246 and AWV1252

Note: Abbreviation listed indicate circuit connections.

TUNER : 4.4 (1) TUNER–VIDEO ASSEMBLY(1/4)
AUDIO : 4.4 (2) ① TUNER–VIDEO ASSEMBLY(2/4)
VIDEO : 4.4 (3) ① TUNER–VIDEO ASSEMBLY(3/4)

TUNER-VIDEO ASSEMBLY (4/4) (AWV1246),(AWV1252)
● CONTROL SECTION


Q453 – 455,459,492 : CPU RESET
5V STB(P454)
P.GND(P455)
TP(P456)
4.6 MICROCOMPUTER ASSEMBLY L2
U20
4.2 (1) ① AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A2
U2
4.6 MICROCOMPUTER ASSEMBLY L1
U19
Q445,446 : POWER OFF PROTECTION AT DISCHARGE
Q461 : REGULATOR
IC453 : RESET
Q456 : RELAY DRIVER
Q450-452 : FUNCTION CONTROL INVERTER
Q463,472,473,495 : EDGE CIRCUIT OF TELOP
Q467 : INVERTER
Q457,458,460, D457,458 : OPTION/AFT /DPO SWITCH
IC452 : NON-VOLATILE MEMORY
Q466 : INVERTER
Q464,465,493 : INVERTER
Q469-471 : INVERTER
Q462,468 : INVERTER
IC451 : SYSTEM CONTROL MICROCOMPUTER
TC401:TELOP POSITION ADJ
Q474 : BUFFER
Q475,476 : REAR/CENTER BALANCE CONTROL BUFFER
IC454 : CONTROL VOLTAGE PICK UP
Q479 : INVERTER
Q491 : DETAIL CONTROL BUFFER
Q490 : SHARPNESS CONTROL BUFFER
Q489 : BRIGHTNESS CONTROL BUFFER
Q488 : TINT CONTROL BUFFER
Q487 : COLOR CONTROL BUFFER
Q486 : FRONT VOLUME CONTROL BUFFER
Q482,485 : BASS CONTROL BUFFER
Q481,484 : TREBLE CONTROL BUFFER
(VIDEO)
(AUDIO)
(TUNER)
4.11 POWER SUPPLY ASSEMBLY E6
U7
4.10 CONVERGENCE ASSEMBLY G5
U16
AKN-207
IN
CONTROL
OUT
U5
4.7 (1) W FRONT CONTROL ASSEMBLY B1 and B2
+13.5V (AUDIO)
L WHITE
DETAIL
SHARP
BRIGHT
CONTRAST
TINT
COLOR
OSD R
OSD G
OSD B
TEST CROSS
H.BLK
V.BLK
PEAK ACL OFF
5V STB
A MUTE
VOLUME
BASS
TREBLE
BALANCE
R OFF G OFF B OFF
(VIDEO)
DOLBY BALANCE
DOLBY VOLUME
(AUDIO)

*1 IC451 FUNCTION CONTROL LOGIC

PIN 39 (INP0)	PIN 38 (INP1)	PIN 37 (INP2)	FUNCTION
H	H	H	VIDEO 3
L	H	H	VIDEO 2
L	L	H	VIDEO 1
H	L	H	LD
H	H	L	TV

*2 IC451 MTS CONTROL LOGIC

PIN 51 (MTS1)	PIN 52 (MTS0)	MTS
L	L	MAIN/SAP
L	H	MAIN
H	L	SAP
H	H	MONO

IC451	PD5185B
IC452	X24C04P
IC453	MC34064P
IC454	MC14051BCP
Q445, 446, 450-453, 455, 459, Q462, 467-469, 471, 474, 476, Q478, 480-482, 486, 495	2SC1740S
Q454, 460, 470, 475, Q477, 483-485, Q487-492	2SA933S
Q456-458, Q464-466, 493	XDC143ES
Q461	2SD438
Q463, 472, 473	2SC3732
Q479	XDC124ES
D401-404, 411-419, D423-429, 469, D480-483, 486-488	RD6.8ESB
D405-410, 485	RD15ESB
D450-454, 456-459, D461-468, 470-478	1SS252
D455	RD5.6ESB2
D460	RD5.1ESB2
L401	LAU220K
TC401	ACM-020
X451	ASS1022

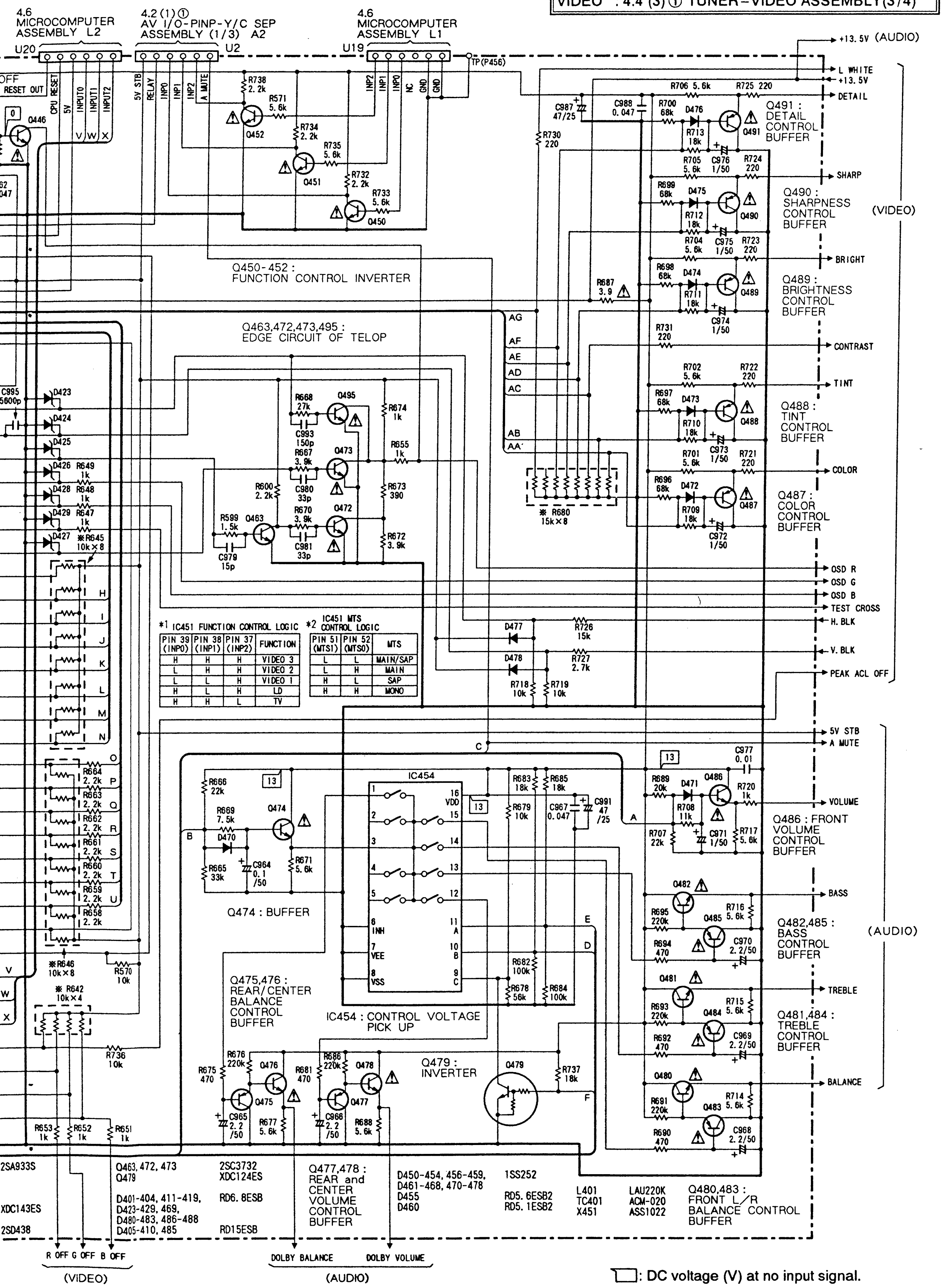
Q477,478 : REAR and CENTER VOLUME CONTROL BUFFER

Q480,483 : FRONT L/R BALANCE CONTROL BUFFER

▭: DC voltage (V) at no input signal.

Note: Abbreviation listed indicate circuit connections.

TUNER	: 4.4 (1)	TUNER-VIDEO ASSEMBLY(1/4)
AUDIO	: 4.4 (2) ①	TUNER-VIDEO ASSEMBLY(2/4)
VIDEO	: 4.4 (3) ①	TUNER-VIDEO ASSEMBLY(3/4)


4.6 MICROCOMPUTER ASSEMBLY L2
U20
4.2 (1) ① AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A2
U2
4.6 MICROCOMPUTER ASSEMBLY L1
U19
TP(P456)
+13.5V (AUDIO)
L WHITE
+13.5V
DETAIL
SHARP
BRIGHT
CONTRAST
TINT
COLOR
(VIDEO)
OSD R
OSD G
OSD B
TEST CROSS
H. BLK
V. BLK
PEAK ACL OFF
5V STB
A MUTE
VOLUME
BASS
TREBLE
BALANCE
(AUDIO)
Q491 : DETAIL CONTROL BUFFER
Q490 : SHARPNESS CONTROL BUFFER
Q489 : BRIGHTNESS CONTROL BUFFER
Q488 : TINT CONTROL BUFFER
Q487 : COLOR CONTROL BUFFER
Q450-452 : FUNCTION CONTROL INVERTER
Q463,472,473,495 : EDGE CIRCUIT OF TELOP
IC454
IC454 : CONTROL VOLTAGE PICK UP
Q474 : BUFFER
Q475,476 : REAR/CENTER BALANCE CONTROL BUFFER
Q479 : INVERTER
Q486 : FRONT VOLUME CONTROL BUFFER
Q482,485 : BASS CONTROL BUFFER
Q481,484 : TREBLE CONTROL BUFFER
Q477,478 : REAR and CENTER VOLUME CONTROL BUFFER
Q480,483 : FRONT L/R BALANCE CONTROL BUFFER
※ R680 15k×8
※ R645 10k×8
※ R646 10k×8
※ R642 10k×4
2SA933S
XDC143ES
2SD438
Q463, 472, 473
Q479
2SC3732
XDC124ES
D401-404, 411-419,
D423-429, 469,
D480-483, 486-488
RD6. 8ESB
D405-410, 485
RD15ESB
D450-454, 456-459,
D461-468, 470-478
D455
D460
1SS252
RD5. 6ESB2
RD5. 1ESB2
L401
TC401
X451
LAU220K
ACM-020
ASS1022
R OFF G OFF B OFF
(VIDEO)
DOLBY BALANCE
DOLBY VOLUME
(AUDIO)

*1 IC451 FUNCTION CONTROL LOGIC

PIN 39 (INP0)	PIN 38 (INP1)	PIN 37 (INP2)	FUNCTION
H	H	H	VIDEO 3
L	H	H	VIDEO 2
L	L	H	VIDEO 1
H	L	H	LD
H	H	L	TV

*2 IC451 MTS CONTROL LOGIC

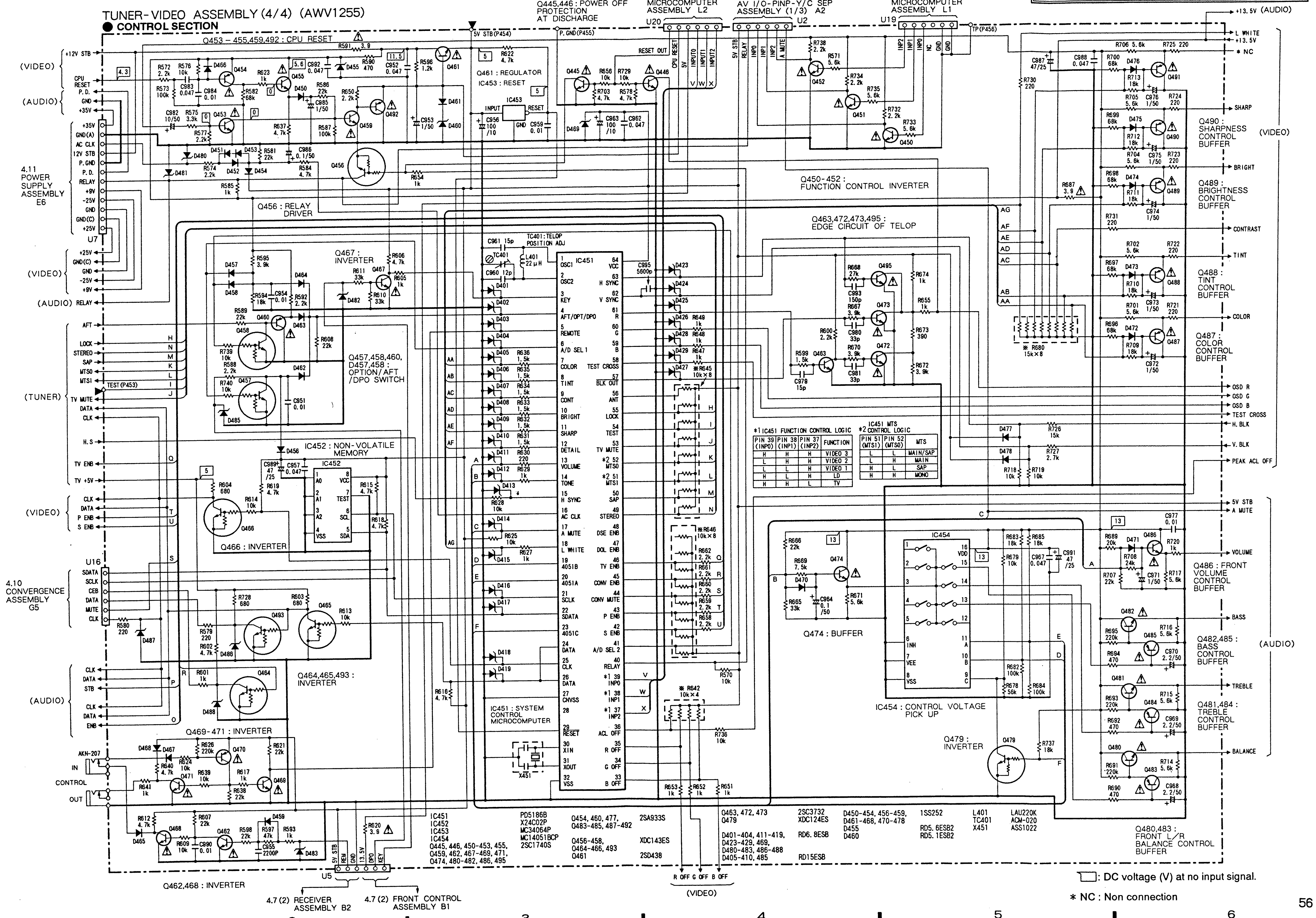
PIN 51 (MTS1)	PIN 52 (MTS0)	MTS
L	L	MAIN/SAP
L	H	MAIN
H	L	SAP
H	H	MONO

▭: DC voltage (V) at no input signal.

② AWV1255

Note: Abbreviation listed indicate circuit connections.

TUNER	: 4.4 (1)	TUNER-VIDEO ASSEMBLY(1/4)
AUDIO	: 4.4 (2) ②	TUNER-VIDEO ASSEMBLY(2/4)
VIDEO	: 4.4 (3) ②	TUNER-VIDEO ASSEMBLY(3/4)


1
2
3
4
5
6
A
B
C
D
TUNER-VIDEO ASSEMBLY (4/4) (AWV1255)
● CONTROL SECTION
Q453 – 455,459,492 : CPU RESET
Q445,446 : POWER OFF PROTECTION AT DISCHARGE
4.6 MICROCOMPUTER ASSEMBLY L2
4.2 (1) ① AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A2
4.6 MICROCOMPUTER ASSEMBLY L1
U20
U2
U19
5V STB(P454)
P.GND(P455)
TP(P456)
+13.5V (AUDIO)
L WHITE
+13.5V
NC
Q461 : REGULATOR
IC453 : RESET
IC453
INPUT
RESET
GND
RESET OUT
(VIDEO)
(AUDIO)
+12V STB
CPU RESET
P.D.
GND
+35V
GND(A)
AC CLK
12V STB
P.GND
RELAY
+9V
-25V
GND(C)
+25V
U7
4.11 POWER SUPPLY ASSEMBLY E6
Q456 : RELAY DRIVER
Q450-452 : FUNCTION CONTROL INVERTER
Q463,472,473,495 : EDGE CIRCUIT OF TELOP
Q467 : INVERTER
Q457,458,460, D457,458 : OPTION/AFT /DPO SWITCH
TC401:TELOP POSITION ADJ
IC451
IC452 : NON-VOLATILE MEMORY
IC452
Q466 : INVERTER
(TUNER)
AFT
LOCK
STEREO
SAP
MTS0
MTS1
TEST (P453)
TV MUTE
DATA
CLK
H.S
TV ENB
TV +5V
P ENB
S ENB
U16
4.10 CONVERGENCE ASSEMBLY G5
SDATA
SCLK
CEB
MUTE
Q464,465,493 : INVERTER
STB
ENB
Q469-471 : INVERTER
AKH-207
IN
CONTROL
OUT
Q462,468 : INVERTER
U5
5V STB
REM
GND
13.5V
DPO
KEY
4.7 (2) RECEIVER ASSEMBLY B2
4.7 (2) FRONT CONTROL ASSEMBLY B1
IC451 : SYSTEM CONTROL MICROCOMPUTER
X451
R OFF G OFF B OFF
(VIDEO)
IC454
IC454 : CONTROL VOLTAGE PICK UP
Q474 : BUFFER
Q479 : INVERTER
SHARP
Q490 : SHARPNESS CONTROL BUFFER
BRIGHT
Q489 : BRIGHTNESS CONTROL BUFFER
CONTRAST
TINT
Q488 : TINT CONTROL BUFFER
COLOR
Q487 : COLOR CONTROL BUFFER
OSD R
OSD G
OSD B
TEST CROSS
H.BLK
V.BLK
PEAK ACL OFF
5V STB
A MUTE
VOLUME
Q486 : FRONT VOLUME CONTROL BUFFER
BASS
Q482,485 : BASS CONTROL BUFFER
TREBLE
Q481,484 : TREBLE CONTROL BUFFER
BALANCE
Q480,483 : FRONT L/R BALANCE CONTROL BUFFER
(AUDIO)
※ R680 15k×8
※ R642 10k×4
※ R646 10k×8
※ R645 10k×8

*1 IC451 FUNCTION CONTROL LOGIC

PIN 39 (INP0)	PIN 38 (INP1)	PIN 37 (INP2)	FUNCTION
H	H	H	VIDEO 3
L	H	H	VIDEO 2
L	L	H	VIDEO 1
H	L	H	LD
H	H	L	TV

*2 IC451 MTS CONTROL LOGIC

PIN 51 (MTS1)	PIN 52 (MTS0)	MTS
L	L	MAIN/SAP
L	H	MAIN
H	L	SAP
H	H	MONO

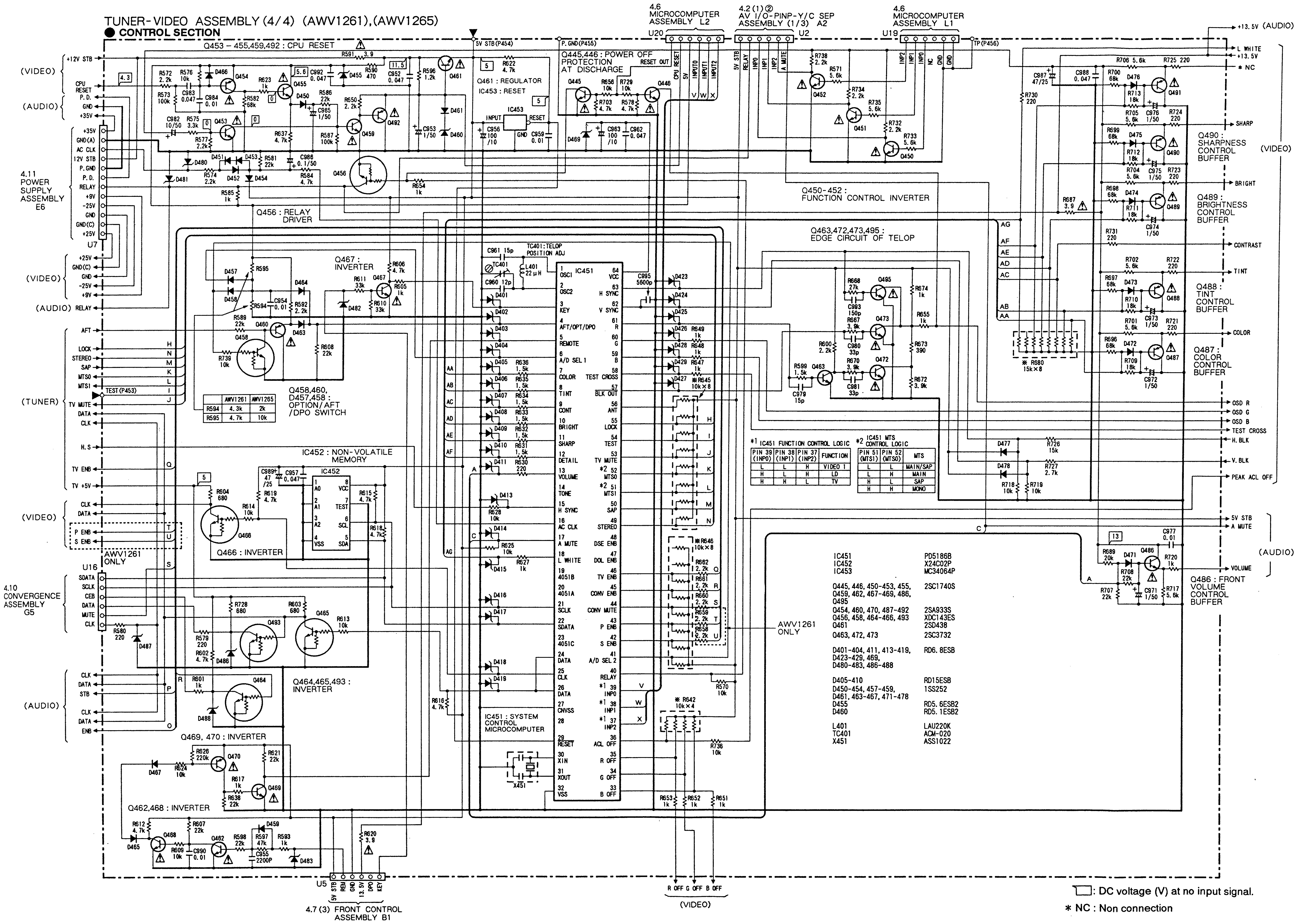
IC451	PD5186B
IC452	X24C02P
IC453	MC34064P
IC454	MC14051BCP
Q445, 446, 450-453, 455, Q459, 462, 467-469, 471, Q474, 480-482, 486, 495	2SC1740S
Q454, 460, 477, Q483-485, 487-492	2SA933S
Q456-458, Q464-466, 493	XDC143ES
Q461	2SD438
Q463, 472, 473	2SC3732
Q479	XDC124ES
D401-404, 411-419, D423-429, 469, D480-483, 486-488	RD6.8ESB
D405-410, 485	RD15ESB
D450-454, 456-459, D461-468, 470-478	1SS252
D455	RD5.6ESB2
D460	RD5.1ESB2
L401	LAU220K
TC401	ACM-020
X451	ASS1022

□: DC voltage (V) at no input signal.

* NC : Non connection

TUNER-VIDEO ASSEMBLY (4/4) (AWV1261),(AWV1265)

● CONTROL SECTION


Q453 – 455,459,492 : CPU RESET
Q461 : REGULATOR
IC453 : RESET
Q445,446 : POWER OFF PROTECTION AT DISCHARGE
4.6 MICROCOMPUTER ASSEMBLY L2
U20
4.2 (1) ② AV I/O-PINP-Y/C SEP ASSEMBLY (1/3) A2
U2
4.6 MICROCOMPUTER ASSEMBLY L1
U19
Q450-452 : FUNCTION CONTROL INVERTER
Q463,472,473,495 : EDGE CIRCUIT OF TELOP
Q490 : SHARPNESS CONTROL BUFFER
Q489 : BRIGHTNESS CONTROL BUFFER
Q488 : TINT CONTROL BUFFER
Q487 : COLOR CONTROL BUFFER
Q486 : FRONT VOLUME CONTROL BUFFER
Q456 : RELAY DRIVER
Q467 : INVERTER
Q458,460, D457,458 : OPTION/AFT /DPO SWITCH
IC452 : NON-VOLATILE MEMORY
Q466 : INVERTER
Q464,465,493 : INVERTER
Q469, 470 : INVERTER
Q462,468 : INVERTER
IC451 : SYSTEM CONTROL MICROCOMPUTER
TC401:TELOP POSITION ADJ
4.11 POWER SUPPLY ASSEMBLY E6
U7
4.10 CONVERGENCE ASSEMBLY G5
U16
AWV1261 ONLY
U5
4.7 (3) FRONT CONTROL ASSEMBLY B1
(VIDEO)
(AUDIO)
(TUNER)
+13.5V (AUDIO)
L WHITE
+13.5V
✻ NC
SHARP
BRIGHT
CONTRAST
TINT
COLOR
OSD R
OSD G
OSD B
TEST CROSS
H. BLK
V. BLK
PEAK ACL OFF
5V STB
A MUTE
VOLUME
R OFF G OFF B OFF

*1 IC451 FUNCTION CONTROL LOGIC

PIN 39 (INP0)	PIN 38 (INP1)	PIN 37 (INP2)	FUNCTION
L	L	H	VIDEO 1
H	L	H	LD
H	H	L	TV

*2 IC451 MTS CONTROL LOGIC

PIN 51 (MTS1)	PIN 52 (MTS0)	MTS
L	L	MAIN/SAP
L	H	MAIN
H	L	SAP
H	H	MONO

	AWV1261	AWV1265
R594	4.3k	2k
R595	4.7k	10k

IC451	PD5186B
IC452	X24C02P
IC453	MC34064P
Q445, 446, 450-453, 455, Q459, 462, 467-469, 486, Q495	2SC1740S
Q454, 460, 470, 487-492	2SA933S
Q456, 458, 464-466, 493	XDC143ES
Q461	2SD438
Q463, 472, 473	2SC3732
D401-404, 411, 413-419, D423-429, 469, D480-483, 486-488	RD6. 8ESB
D405-410	RD15ESB
D450-454, 457-459, D461, 463-467, 471-478	1SS252
D455	RD5. 6ESB2
D460	RD5. 1ESB2
L401	LAU220K
TC401	ACM-020
X451	ASS1022

▭ : DC voltage (V) at no input signal.

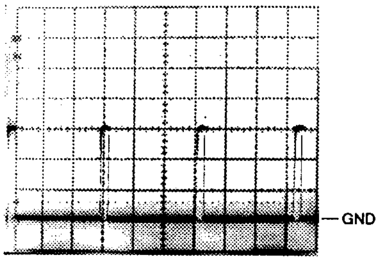
✻ NC : Non connection

● Waveformes at TUNER–VIDEO and VIDEO INPUT assemblies

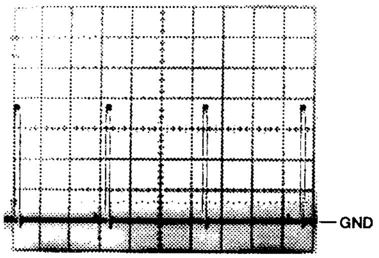
- Input signal : Color bar
- Picture quality : standard
- Range : DC range (without notice)

(1) AWV1246 and AWZ4183

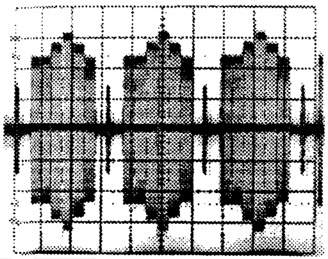
① **Q270 Collector**
V range : 2V/div.
H range : 20 μsec/div.



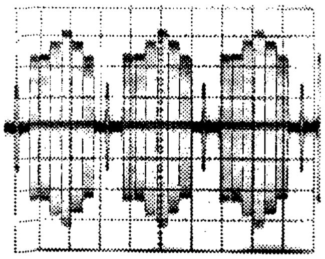
② **U4 pin CLAMP**
V range : 0.5V/div.
H range : 20 μsec/div.



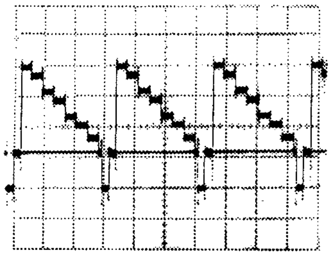
③ **Q257 Emitter**
V range : 50mV/div.
H range : 20 μsec/div.
(AC range)



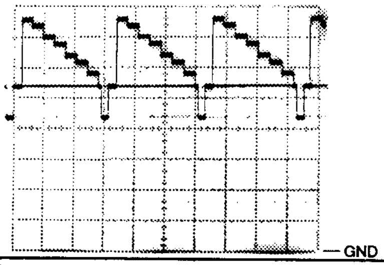
④ **TP–41 (C)**
V range : 50mV/div.
H range : 20 μsec/div.
(AC range)



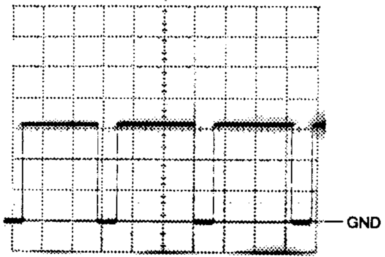
⑤ **TP–05 (Y)**
V range : 0.2V/div.
H range : 20 μsec/div.
(AC range)



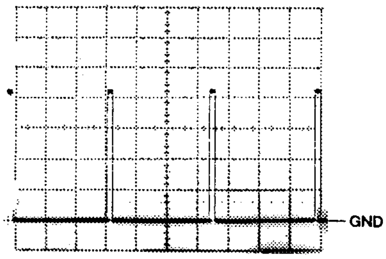
⑥ **Q284 Emitter**
V range : 0.5V/div.
H range : 20 μsec/div.



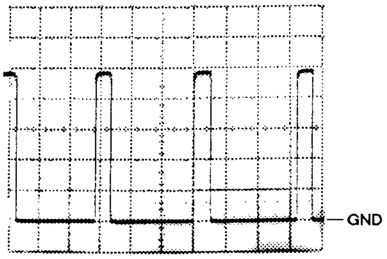
⑦ **Between R1549 and R1555**
V range : 1V/div.
H range : 20 μsec/div.



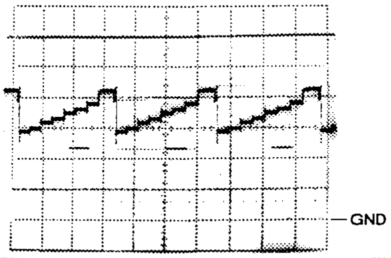
⑧ **Q283 Emitter**
V range : 2V/div.
H range : 5msec/div.



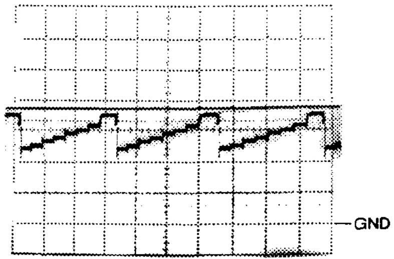
⑨ **Q286 Emitter**
V range : 2V/div.
H range : 20 μsec/div.



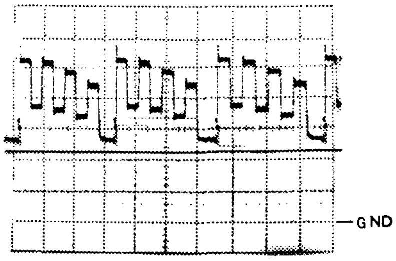
⑩ **TP–13**
V range : 2V/div.
H range : 20 μsec/div.



⑪ **Q293 Emitter**
V range : 2V/div.
H range : 20 μsec/div.

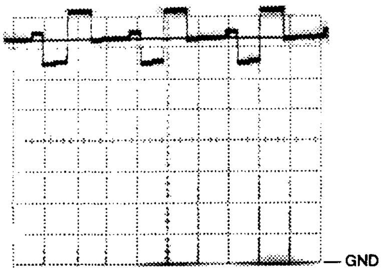


⑫ **Q234 Emitter**
V range : 1V/div.
H range : 20 μsec/div.

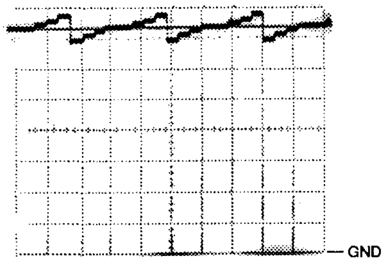


TUNER-VIDEO ASSEMBLY, VIDEO INPUT ASSEMBLY

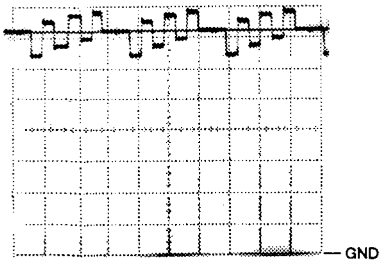
⑬ **TP-46 (R-Y)**
V range : 1V/div.
H range : 20 μsec/div.



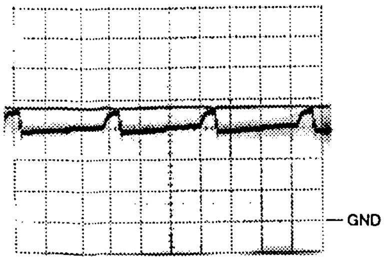
⑭ **TP-46(G-Y)**
V range : 1V/div.
H range : 20 μsec/div.



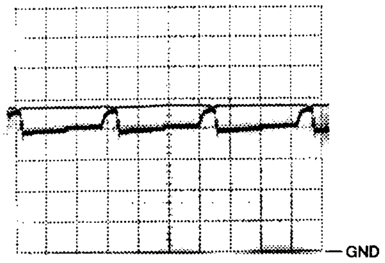
⑮ **TP-46 (B-Y)**
V range : 1V/div.
H range : 20 μsec/div.



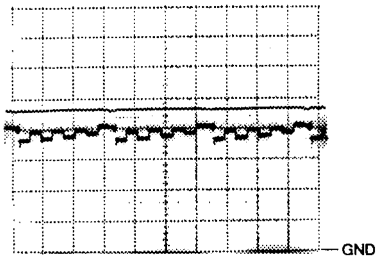
⑯ **TP-47 (R)**
V range : 2V/div.
H range : 20 μsec/div.



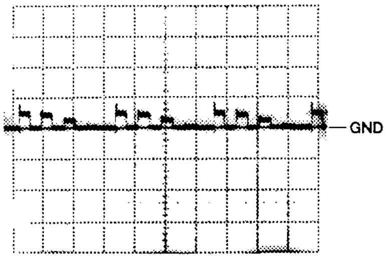
⑰ **TP-47 (G)**
V range : 2V/div.
H range : 20 μsec/div.



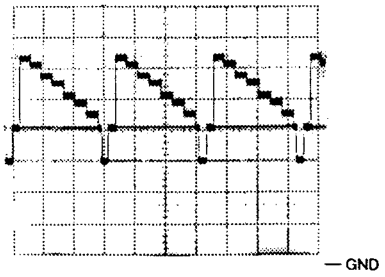
⑱ **TP-47 (B)**
V range : 2V/div.
H range : 20 μsec/div.



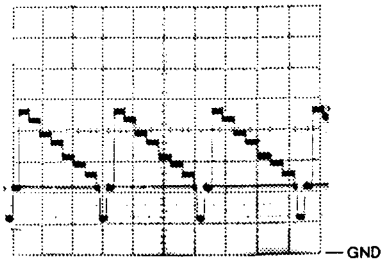
⑲ **Q251 Emitter**
V range : 0.5V/div.
H range : 20 μsec/div.



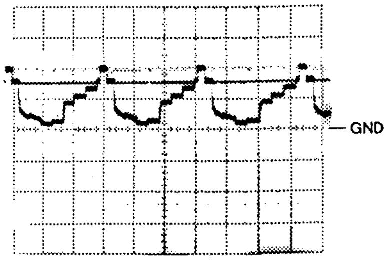
⑳ **X1 pin Y IN**
V range : 0.5V/div.
H range : 20 μsec/div.



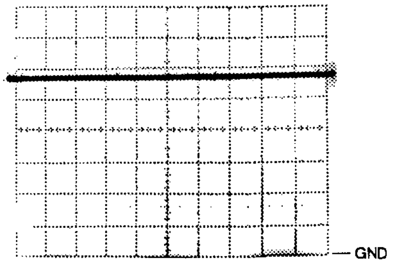
㉑ **Q754 Collector**
V range : 0.5V/div.
H range : 20 μsec/div.



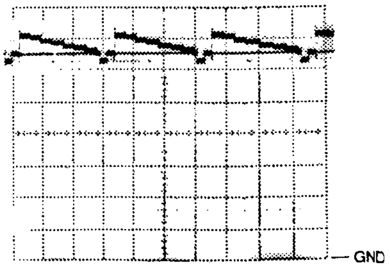
㉒ **Q765 Base**
V range : 0.5V/div.
H range : 20 μsec/div.



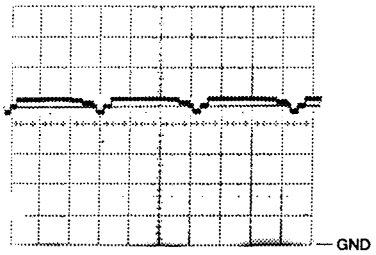
㉓ **IC751 pin 6**
V range : 0.5V/div.
H range : 20 μsec/div.



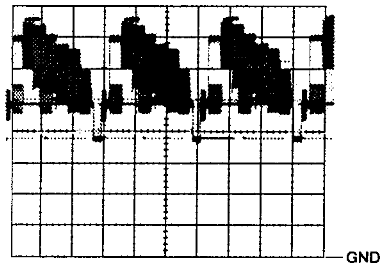
㉔ **Q768 Emitter**
V range : 1V/div.
H range : 20 μsec/div.



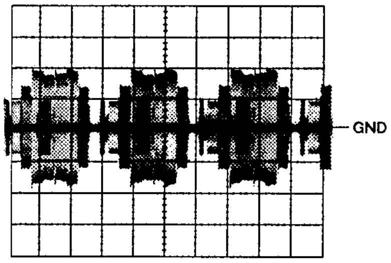
㉕ **X1 pin COLOR OUT**
V range : 0.5V/div.
H range : 20 μsec/div.



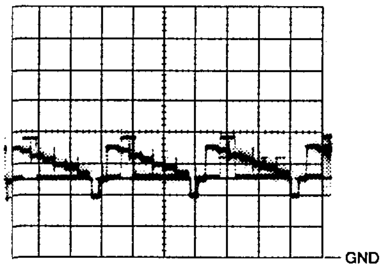
㉗ **Q257 Emitter**
V range : 0.5V/div.
H range : 20 μsec/div.



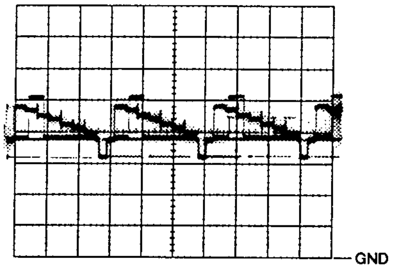
㉘ **TP-41 (C)**
V range : 50mV/div.
H range : 20 μsec/div.



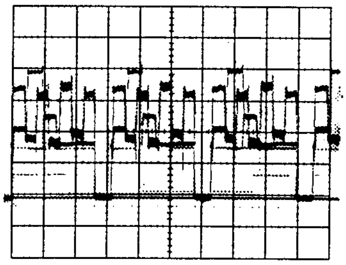
㉙ **TP-05 (Y)**
V range : 0.5V/div.
H range : 20 μsec/div.



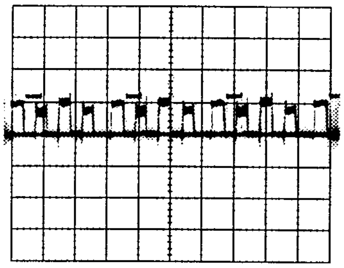
㉚ **Q284 Emitter**
V range : 1V/div.
H range : 20 μsec/div.



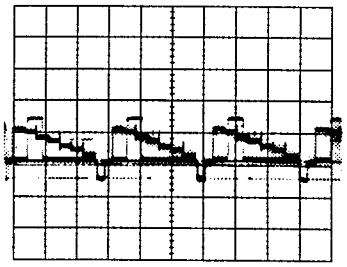
㉛ **Q234 Emitter**
V range : 1V/div.
H range : 20 μsec/div.



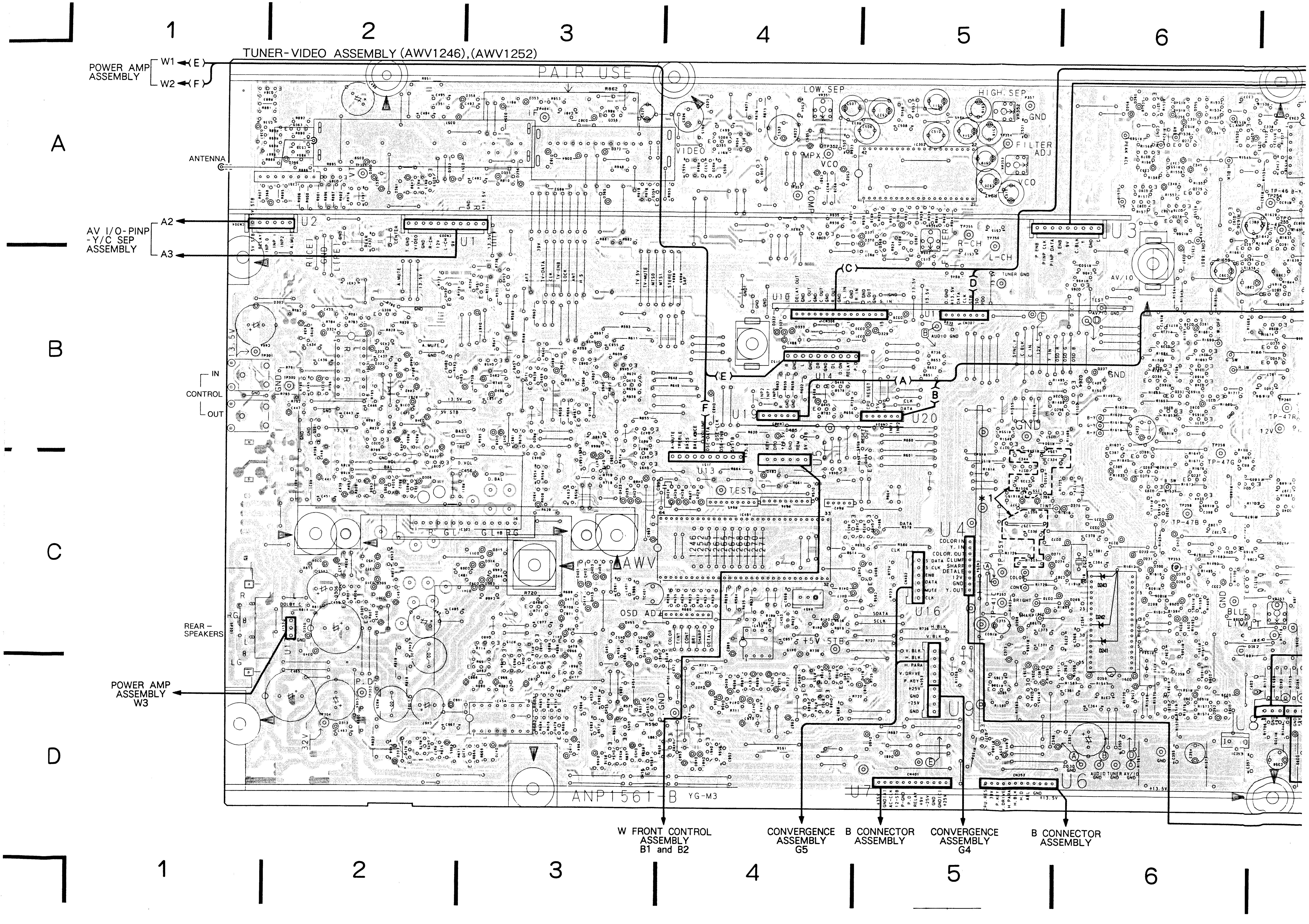
㉜ **Q251 Emitter**
V range : 0.2V/div.
H range : 20 μsec/div.

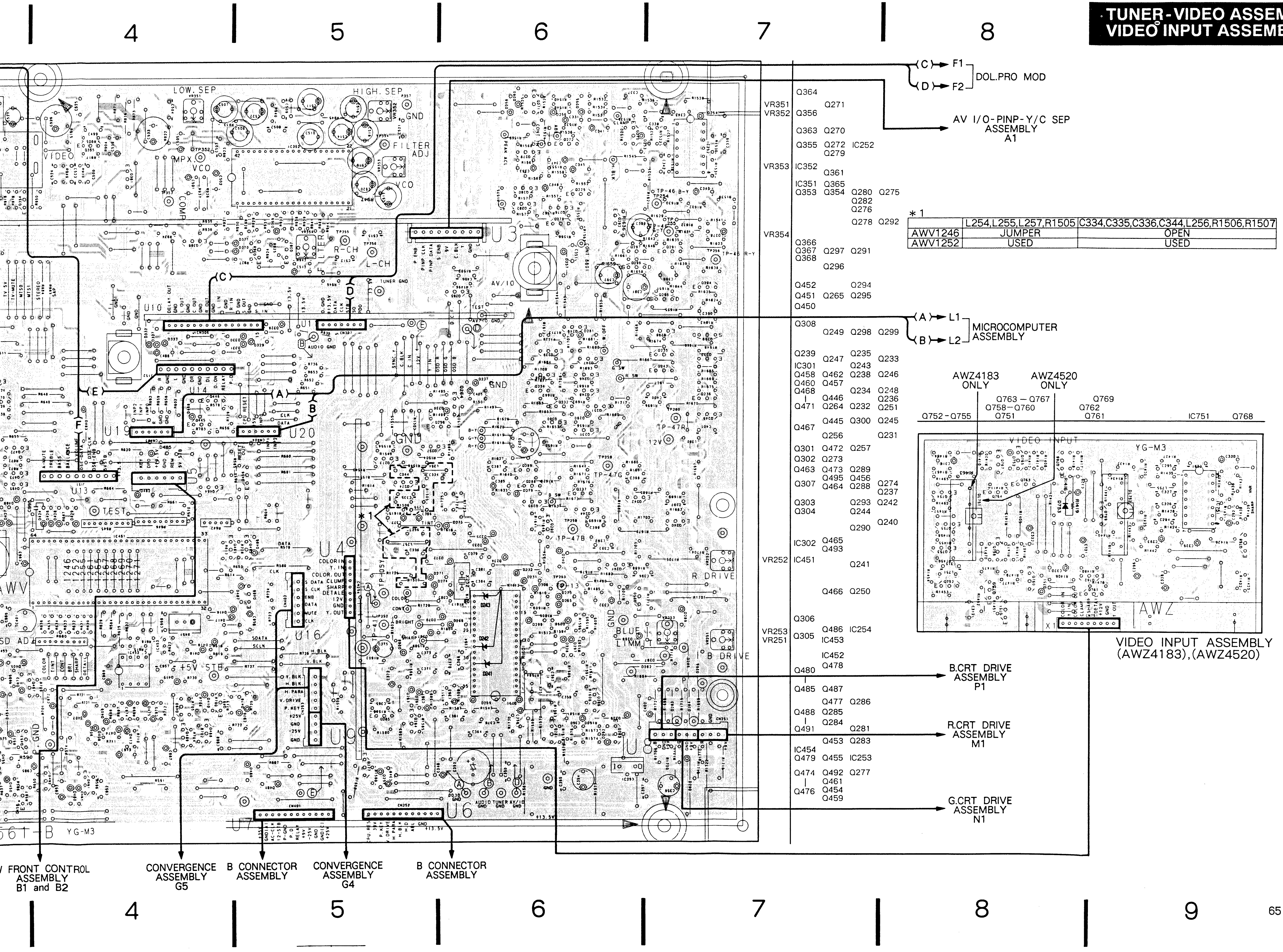


㉝ **U3 pin Y**
V range : 1V/div.
H range : 20 μsec/div.



NOTE : For the waveform㉖, refer to page 85.

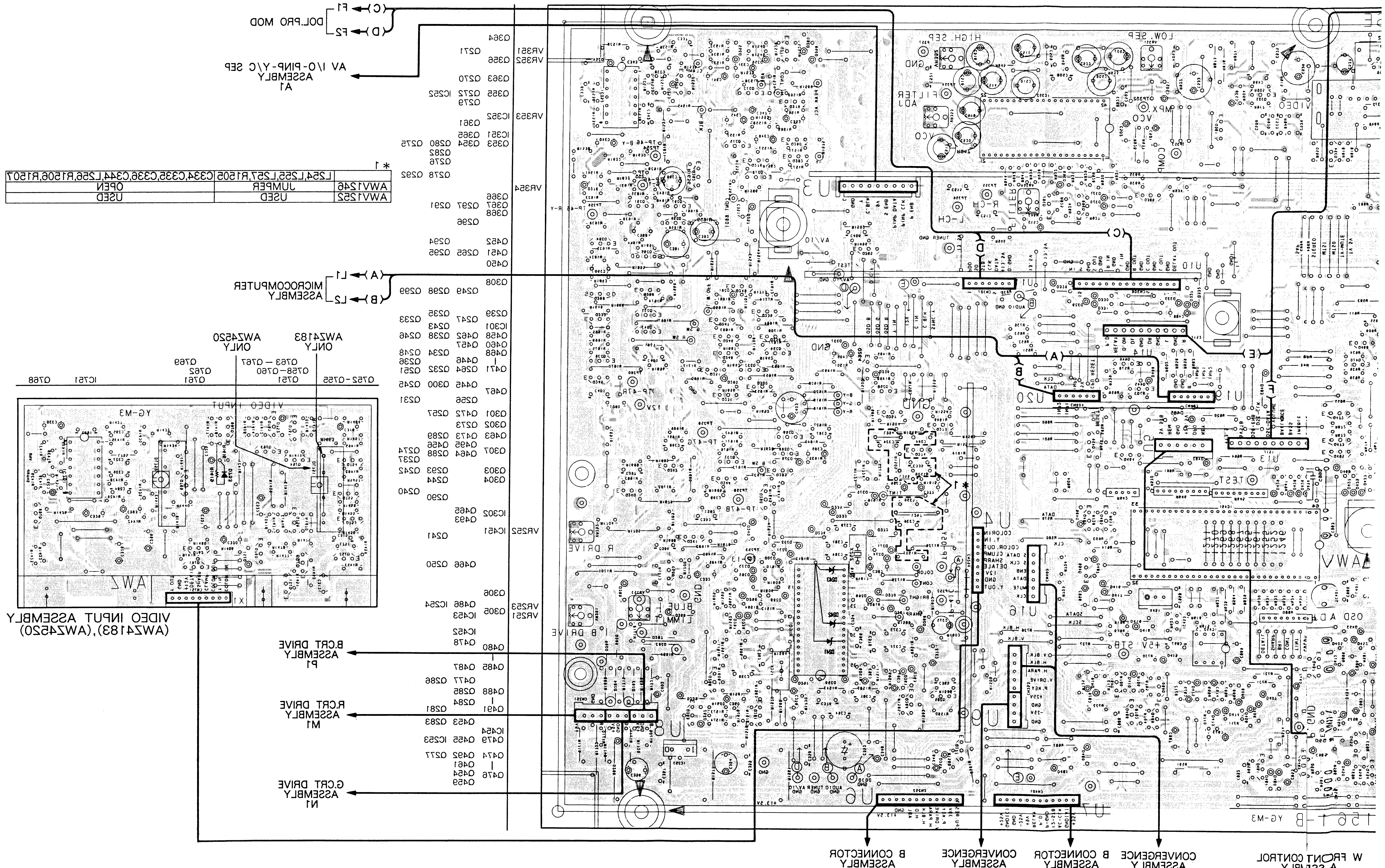

1
2
3
4
5
6
A
B
C
D
TUNER-VIDEO ASSEMBLY (AWV1246),(AWV1252)
POWER AMP ASSEMBLY
W1 E
W2 F
PAIR USE
ANTENNA
VIDEO
LOW SEP
HIGH SEP
MPX
VCO
FILTER ADJ
COMP
AV I/O-PINP -Y/C SEP ASSEMBLY
A2
A3
U2
U1
U3
R-CH
L-CH
AV/IO
13.5V
CONTROL
IN
OUT
U18
U17
U14
U19
U20
U13
TEST
AWV
OSD ADJ
+5V STB
U16
U4
U9
REAR-SPEAKERS
DOLBY C
POWER AMP ASSEMBLY W3
32V
ANP1561-B YG-M3
U7
U6
BLUE LIMIT
TP-46
TP-47B
TP-47G
W FRONT CONTROL ASSEMBLY B1 and B2
CONVERGENCE ASSEMBLY G5
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY


4
5
6
7
8
9
A
B
C
D
LOW. SEP
HIGH. SEP
GND
FILTER ADJ
VCO
MPX
COMP
VIDEO
FILTER
R-CH
L-CH
TUNER GND
U3
AV/IO
U10
U1
U14
U19
U20
U13
TEST
U4
U16
U9
U7
U6
U5
AWV
YG-M3
561-B
+5V STB
R DRIVE
B DRIVE
BLUE LIMM
TP-47R
TP-47G
TP-47B
TP-46 B-Y
TP-46 R-Y
12V
*1
(C)→ F1
(D)→ F2
DOL.PRO MOD
AV I/O-PINP-Y/C SEP ASSEMBLY A1
(A)→ L1
(B)→ L2
MICROCOMPUTER ASSEMBLY
B.CRT DRIVE ASSEMBLY P1
R.CRT DRIVE ASSEMBLY M1
G.CRT DRIVE ASSEMBLY N1
FRONT CONTROL ASSEMBLY B1 and B2
CONVERGENCE ASSEMBLY G5
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY
VR351 VR352 VR353 VR354 VR252 VR253 VR251
Q364 Q271 Q356 Q363 Q270 Q355 Q272 IC252 Q279 IC352 Q361 IC351 Q365 Q353 Q354 Q280 Q275 Q282 Q276 Q278 Q292
Q366 Q367 Q297 Q291 Q368 Q296 Q452 Q294 Q451 Q265 Q295 Q450
Q308 Q249 Q298 Q299 Q239 Q235 Q247 Q233 IC301 Q243 Q458 Q462 Q238 Q246 Q460 Q457 Q468 Q234 Q248 Q446 Q236 Q471 Q264 Q232 Q251 Q445 Q300 Q245 Q467 Q256 Q231
Q301 Q472 Q257 Q302 Q273 Q463 Q473 Q289 Q495 Q456 Q274 Q307 Q464 Q288 Q237 Q303 Q293 Q242 Q304 Q244 Q240 Q290
IC302 Q465 Q493 IC451 Q241 Q466 Q250
Q306 Q305 Q486 IC254 IC453 IC452 Q478 Q480 Q485 Q487 Q477 Q286 Q488 Q285 Q284 Q491 Q281 Q453 Q283 IC454 Q479 Q455 IC253 Q474 Q492 Q277 Q461 Q476 Q454 Q459
AWZ4183 ONLY
AWZ4520 ONLY
Q752-Q755 Q751 Q763-Q767 Q758-Q760 Q762 Q769 Q761 IC751 Q768
VIDEO INPUT
YG-M3
AWZ
X1
VIDEO INPUT ASSEMBLY (AWZ4183),(AWZ4520)

*1

	L254,L255,L257,R1505	C334,C335,C336,C344,L256,R1506,R1507
AWV1246	JUMPER	OPEN
AWV1252	USED	USED

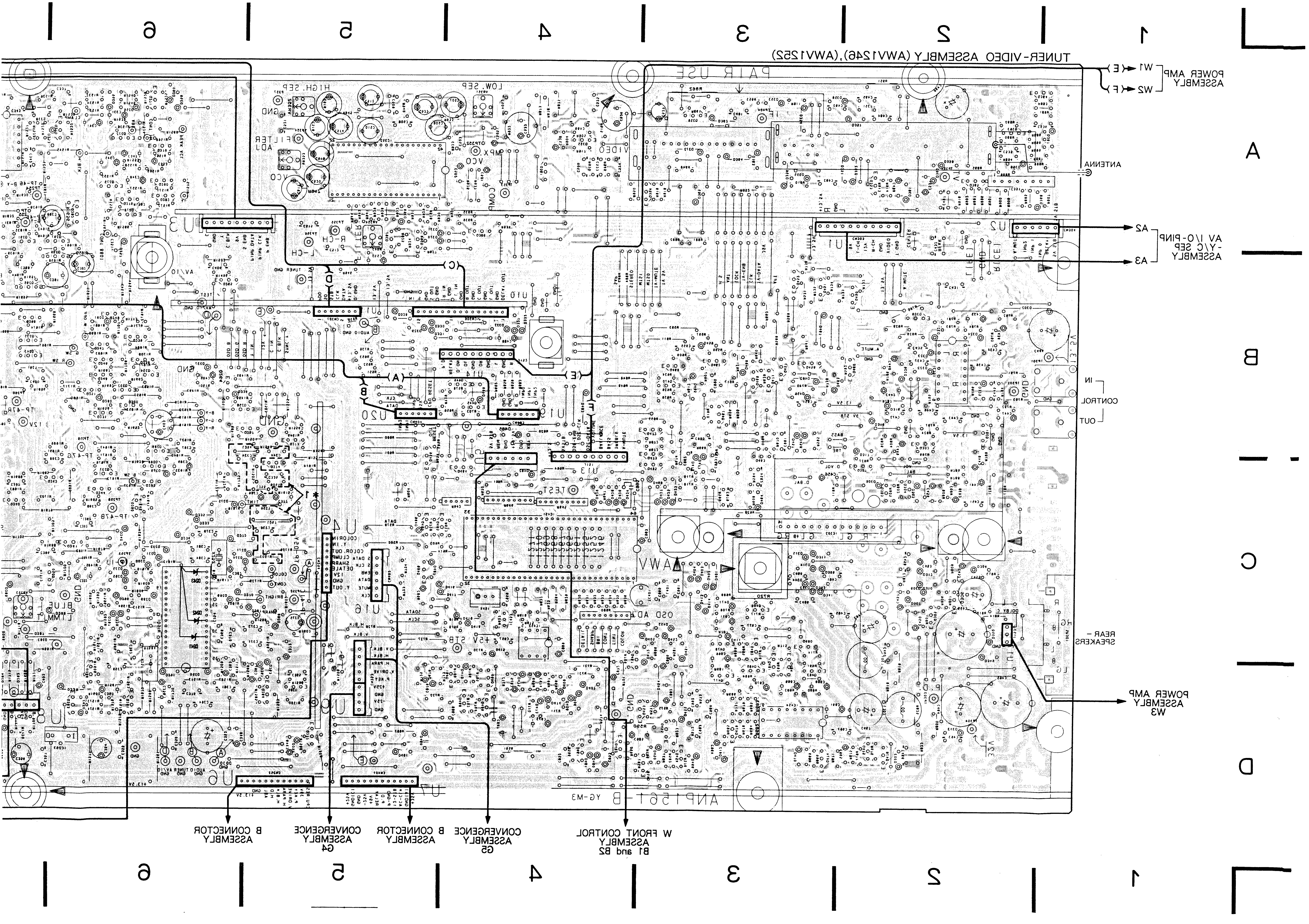
TUNER-VIDEO ASSEMBLY, VIDEO INPUT ASSEMBLY


8
7
6
5
4
9
A
B
C
D
DOL.PRO MOD
F1
F2
AV I/O-PINP-Y/C SEP ASSEMBLY
A1
MICROCOMPUTER ASSEMBLY
L1
L2
AW24183 ONLY
AW24520 ONLY
VIDEO INPUT ASSEMBLY (AW24183),(AW24520)
B.CRT DRIVE ASSEMBLY
P1
R.CRT DRIVE ASSEMBLY
M1
G.CRT DRIVE ASSEMBLY
N1
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY
G4
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY
G5
W FRONT CONTROL ASSEMBLY
B1 and B2
HIGH.SEP
LOW.SEP
FILTER ADJ
VCO
MPX VCO
COMP
VIDEO
R-CH
L-CH
TEST
R DRIVE
B DRIVE
BLUE
L.MM
OSD ADJ
YG-M3
VIDEO INPUT
AWZ
AWV

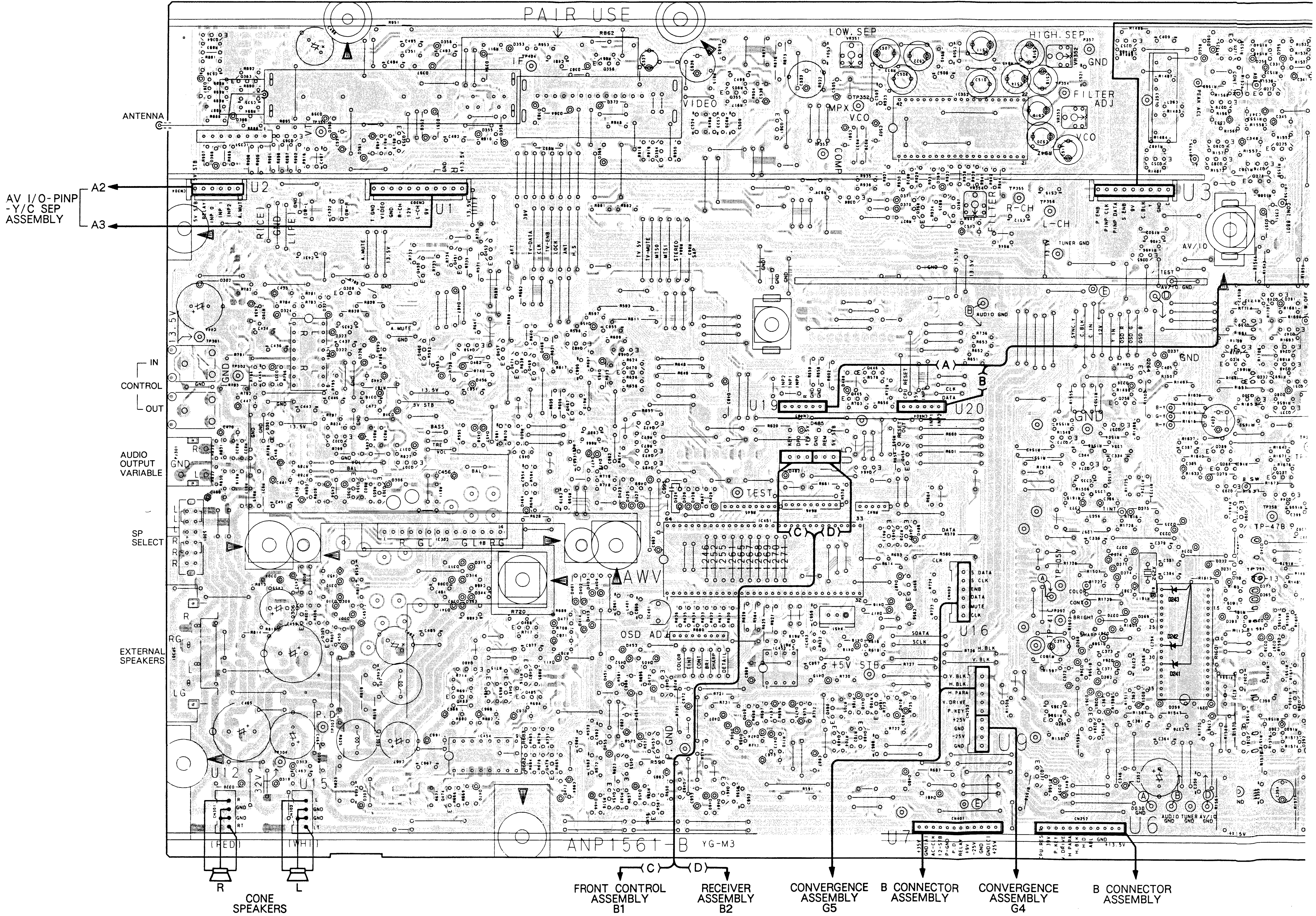
*1

	L254,L255,L257,R1505	C334,C335,C336,C344,L256,R1506,R1507
AWV1246	JUMPER	OPEN
AWV1252	USED	USED

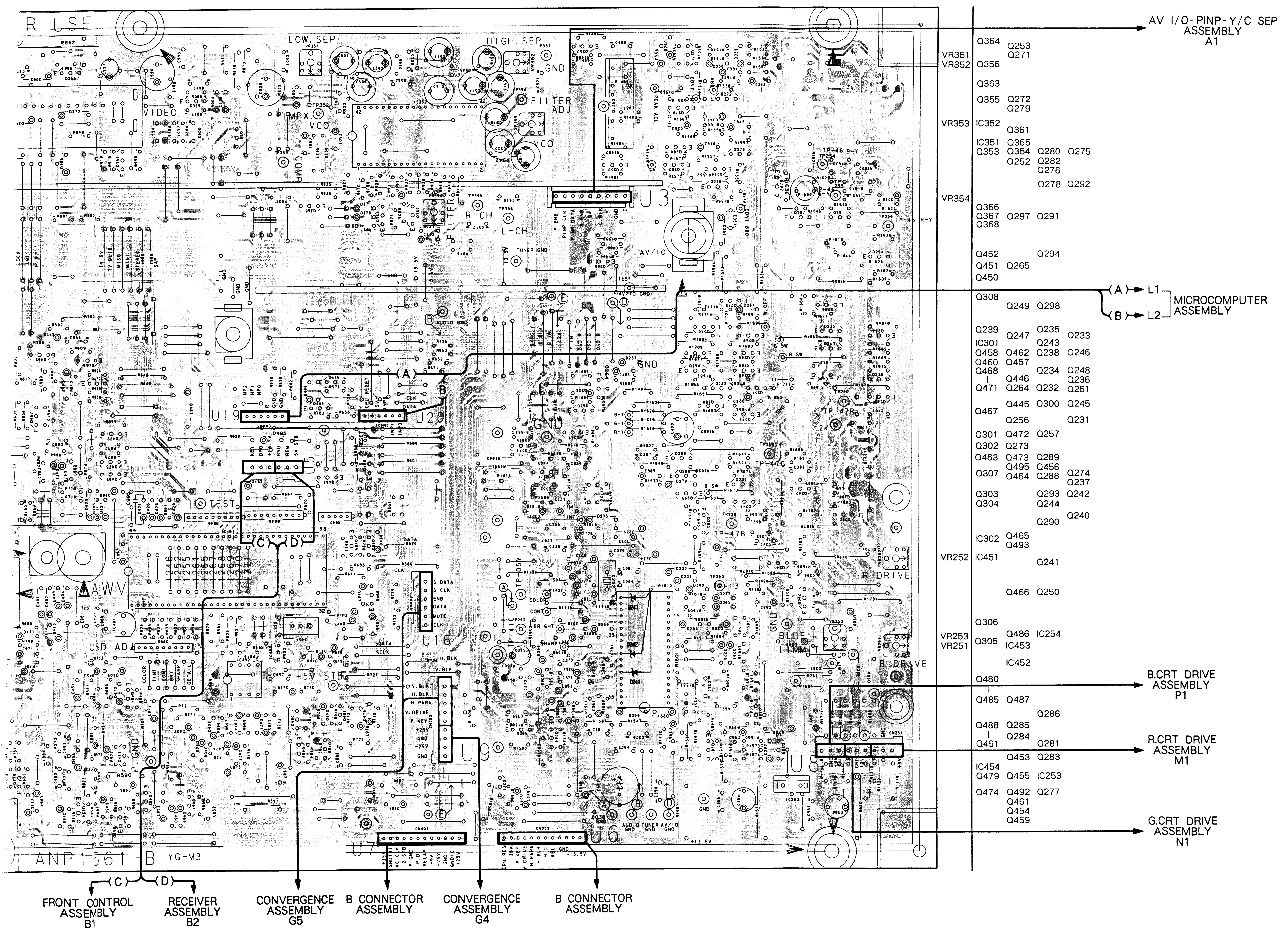
This P.C.B. connection diagram is viewed from the foil side.

1
2
3
4
5
6
A
B
C
D
TUNER-VIDEO ASSEMBLY (AWV1246),(AWV1252)
POWER AMP ASSEMBLY
W1 E
W2 F
ANTENNA
AV I/O-PINP -Y/C SEP ASSEMBLY
A2
A3
IN
CONTROL
OUT
REAR-SPEAKERS
POWER AMP ASSEMBLY W3
PAIR USE
HIGH. SEP
LOW. SEP
FILTER ADJ
VCO
MPX VCO
VIDEO
COMP
U1
U2
U3
U4
U6
U7
U10
U11
U13
U14
U16
U19
U20
TEST
OSD ADJ
AWV
R-CH
L-CH
AV I/O
TUNER GND
AUDIO GND
GND
BLUE
12V
+5V STB
ANP1561-B YG-M3
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G5
W FRONT CONTROL ASSEMBLY B1 and B2

TUNER-VIDEO ASSEMBLY (AWV1255)

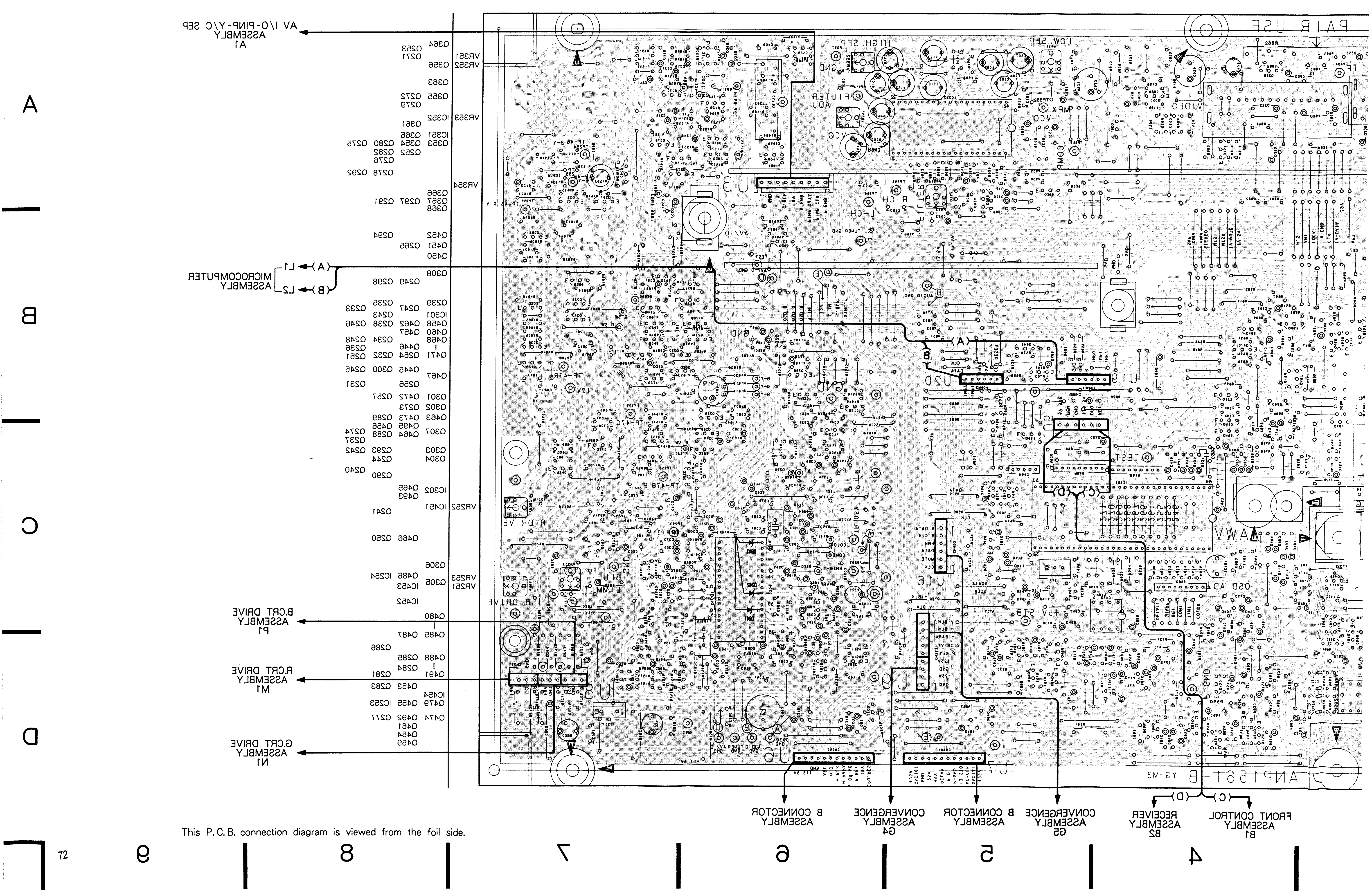


1
2
3
4
5
6
A
B
C
D
PAIR USE
ANTENNA
AV I/O-PINP -Y/C SEP ASSEMBLY
A2
A3
U2
U1
U3
LOW. SEP
HIGH. SEP
VIDEO
MPX
VCO
COMP
FILTER ADJ
GND
R-CH
L-CH
AV/IO
13.5V
CONTROL
IN
OUT
AUDIO OUTPUT VARIABLE
SP SELECT
EXTERNAL SPEAKERS
U19
U20
TEST
OSD ADJ
AWV
+5V STB
U16
U9
U12
U15
32V
(RED)
(WHI)
R
L
CONE SPEAKERS
ANP1561-B
YG-M3
U7
U6
FRONT CONTROL ASSEMBLY B1
RECEIVER ASSEMBLY B2
CONVERGENCE ASSEMBLY G5
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY

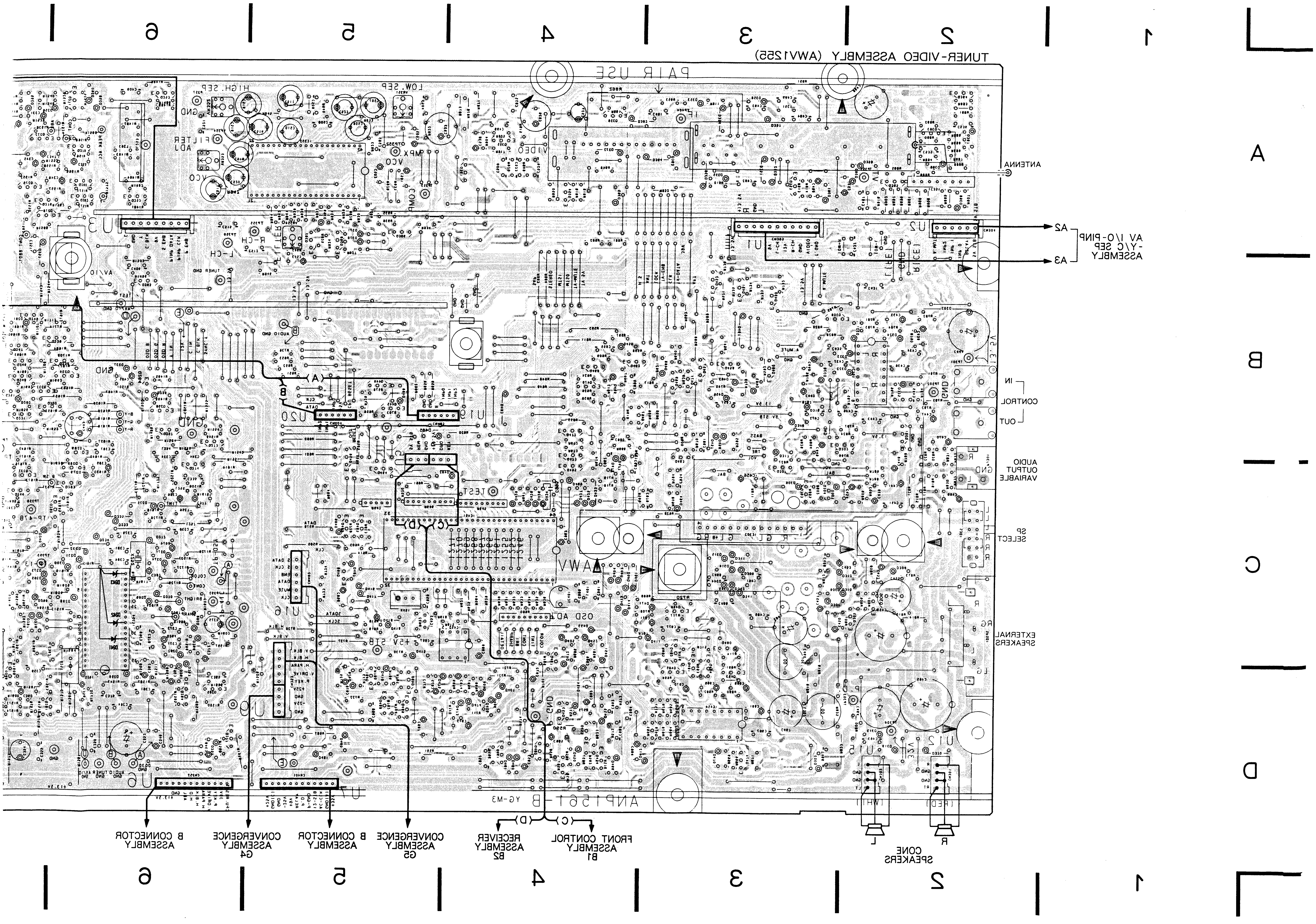

4
5
6
7
8
9
A
B
C
D
AV I/O-PINP-Y/C SEP
ASSEMBLY
A1
(A) L1
(B) L2
MICROCOMPUTER
ASSEMBLY
B.CRT DRIVE
ASSEMBLY
P1
R.CRT DRIVE
ASSEMBLY
M1
G.CRT DRIVE
ASSEMBLY
N1
(C)
(D)
FRONT CONTROL
ASSEMBLY
B1
RECEIVER
ASSEMBLY
B2
CONVERGENCE
ASSEMBLY
G5
B CONNECTOR
ASSEMBLY
CONVERGENCE
ASSEMBLY
G4
B CONNECTOR
ASSEMBLY
ANP1561-B
YG-M3
LOW SEP
HIGH SEP
VIDEO
MPX
VCO
COMP
FILTER ADJ
GND
R-CH
L-CH
TUNER GND
AV/IO
TEST
AUDIO GND
U3
U19
U20
U16
U9
U6
U7
TEST
AWV
OSD ADJ
+5V STB
COLOR
TINT
BRIGHT
SHARP
R DRIVE
B DRIVE
BLUE
LIMM
TP-47R
TP-47G
TP-47B
TP-46 B-Y
TP-46 R-Y
12V
AUDIO GND
TUNER GND
AV/IO GND
+13.5V

Q364 Q253
VR351 Q271
VR352 Q356
Q363
Q355 Q272
Q279
VR353 IC352
Q361
IC351 Q365
Q353 Q354 Q280 Q275
Q252 Q282
Q276
Q278 Q292
VR354
Q366
Q367 Q297 Q291
Q368
Q452 Q294
Q451 Q265
Q450
Q308
Q249 Q298
Q239 Q235
Q247 Q233
IC301 Q243
Q458 Q462 Q238 Q246
Q460 Q457
Q468 Q234 Q248
| Q446 Q236
Q471 Q264 Q232 Q251
Q445 Q300 Q245
Q467
Q231
Q256
Q301 Q472 Q257
Q302 Q273
Q463 Q473 Q289
Q495 Q456
Q307 Q464 Q288 Q274
Q237
Q303 Q293 Q242
Q304 Q244
Q240
Q290
IC302 Q465
Q493
VR252 IC451
Q241
Q466 Q250
Q306
VR253 Q486 IC254
VR251 Q305 IC453
IC452
Q480
|
Q485 Q487
Q286
Q488 Q285
| Q284
Q491 Q281
Q453 Q283
IC454
Q479 Q455 IC253
Q474 Q492 Q277
Q461
Q454
Q459

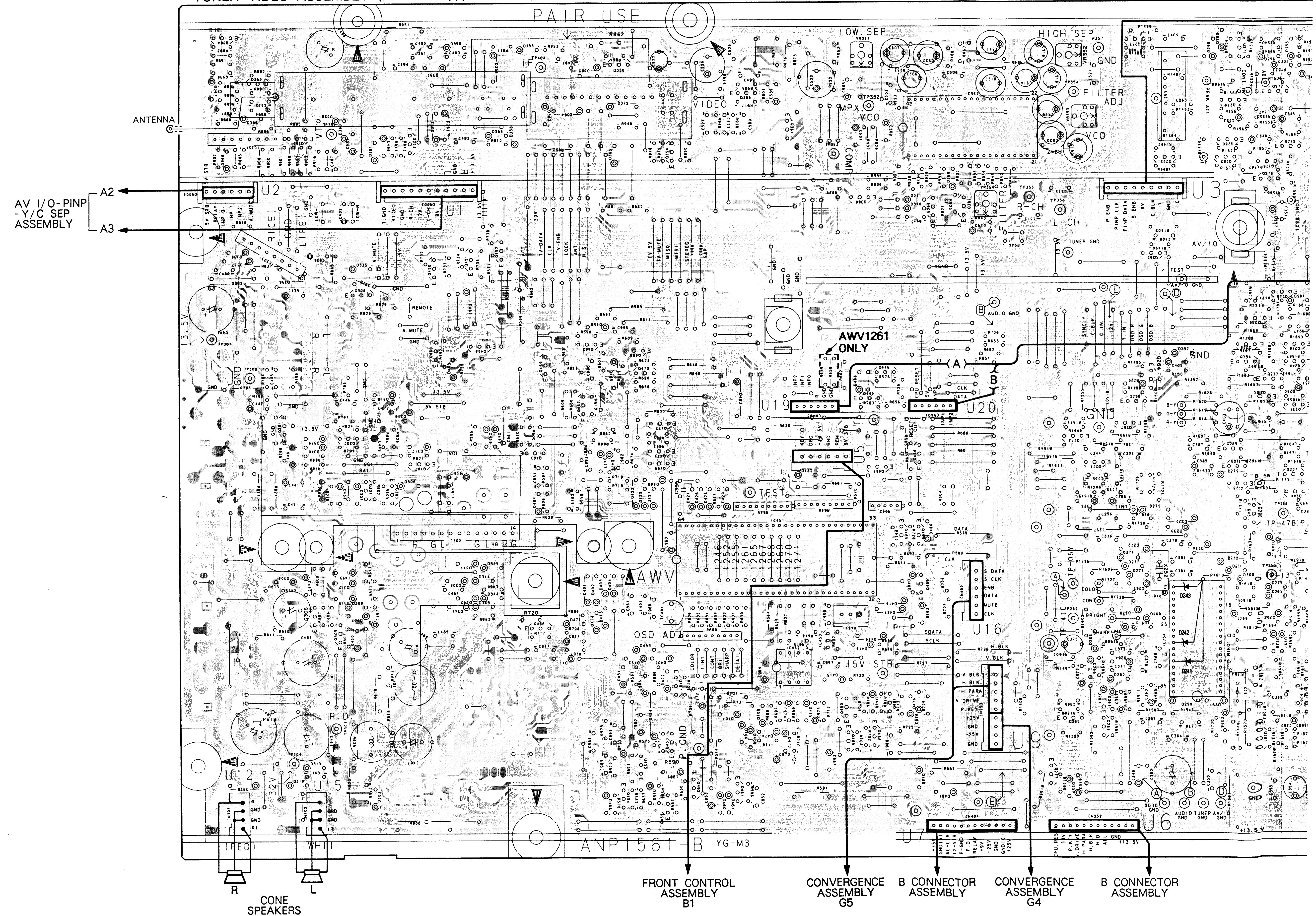
TUNER-VIDEO ASSEMBLY


8
7
6
5
4
A
B
C
D
9
AV I/O-PINP-Y/C SEP ASSEMBLY A1
MICROCOMPUTER ASSEMBLY
L1 (A)
L2 (B)
B.CRT DRIVE ASSEMBLY P1
R.CRT DRIVE ASSEMBLY M1
G.CRT DRIVE ASSEMBLY N1
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G5
RECEIVER ASSEMBLY B2
FRONT CONTROL ASSEMBLY B1
(C)
(D)
VR351
VR352
VR353
VR354
VR252
VR253
VR251
IC352
IC351
IC301
IC302
IC451
IC254
IC453
IC452
IC454
IC253
PAIR USE
HIGH SEP
LOW SEP
FILTER ADJ
VCO
MPX VCO
R-CH
L-CH
AV I/O
TEST
AUDIO GND
GND
R DRIVE
B DRIVE
BLUE LMM
OSD ADJ
AWV
TUNER AV I/O
ANP1561-B

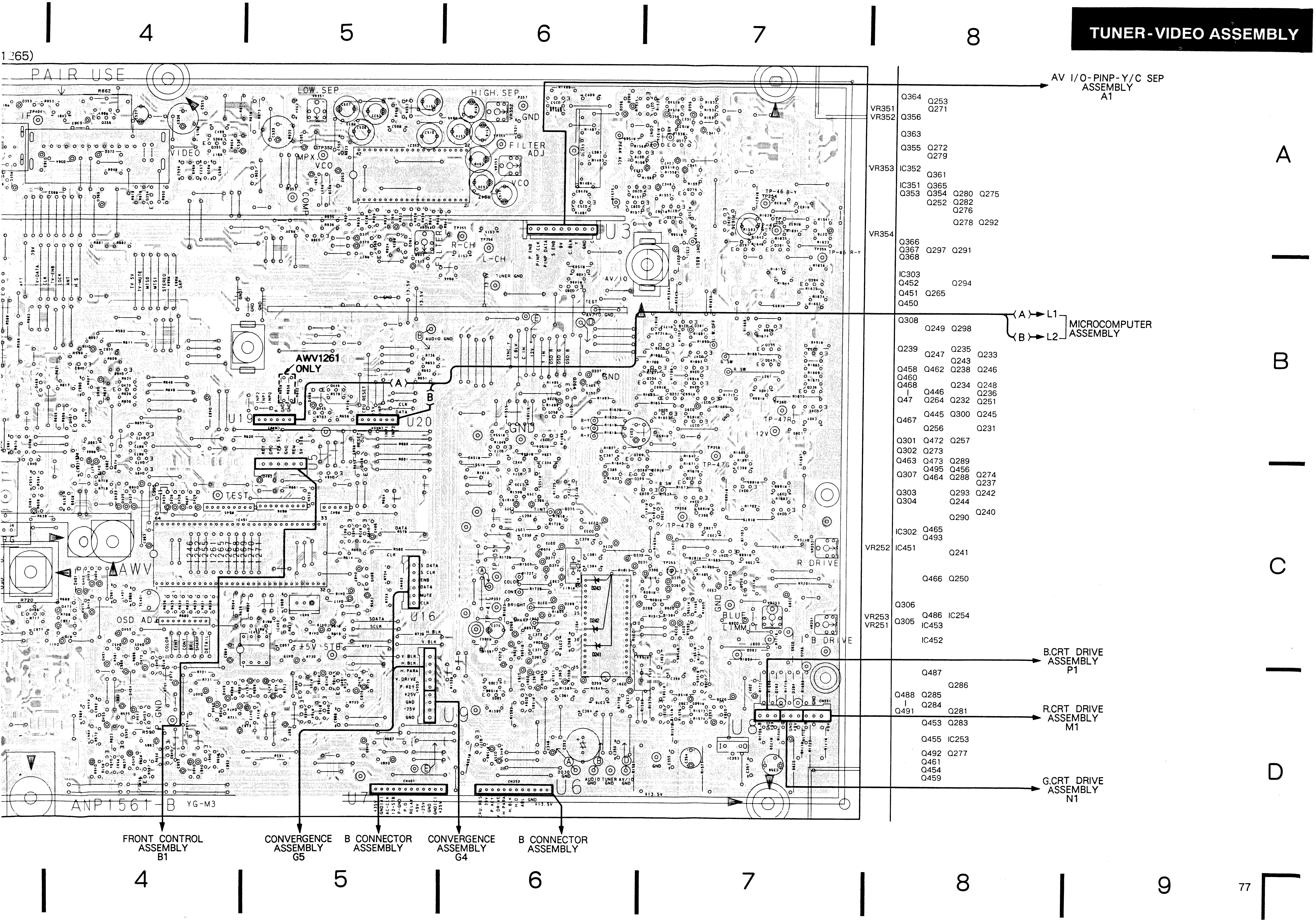
This P.C.B. connection diagram is viewed from the foil side.

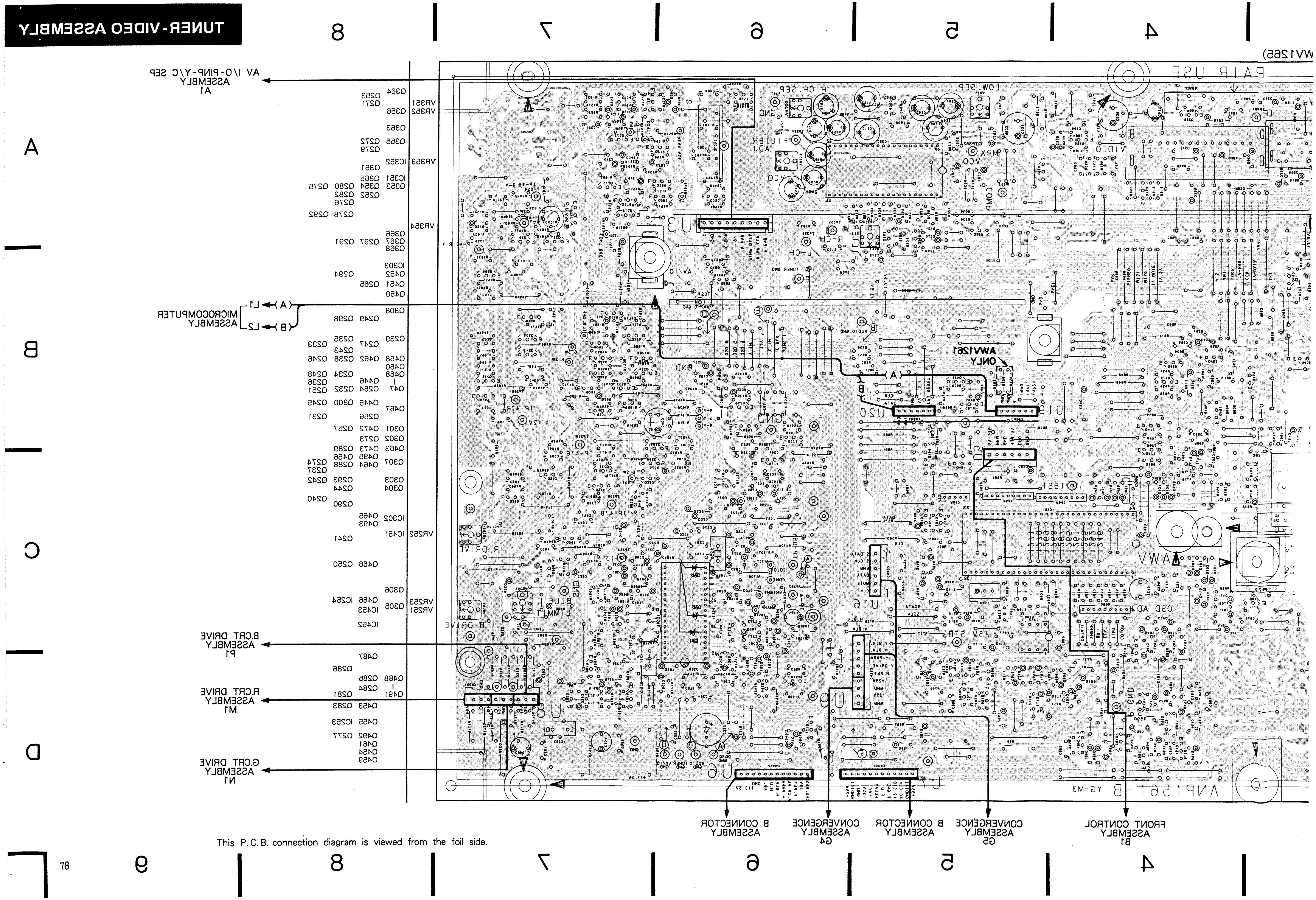

TUNER-VIDEO ASSEMBLY (AWV1255)
1
2
3
4
5
6
A
B
C
D
PAIR USE
HIGH.SEP
LOW.SEP
FILTER ADJ
VCO
MPX VCO
COMP
VIDEO
ANTENNA
U1
U2
U3
A2
A3
AV I/O-PINP -Y/C SEP ASSEMBLY
AV I/O
TEST
GND
R-CH
L-CH
TUNER GND
AUDIO GND
U19
U20
DATA
CLK
A.MUTE
BASS
TRE
VOL
BAL
CONTROL
IN
OUT
AUDIO OUTPUT VARIABLE
SP SELECT
EXTERNAL SPEAKERS
AWV
OSD ADJ
U16
U6
U4
U15
U12
+5V STB
BRIGHT
COLOR
SHARP
TINT
ANP1561-B
YG-M3
(WHT)
(RED)
L
R
CONE SPEAKERS
FRONT CONTROL ASSEMBLY B1
RECEIVER ASSEMBLY B2
(C)
(D)
CONVERGENCE ASSEMBLY G5
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY

TUNER-VIDEO ASSEMBLY (AWV1261),(AWV1265)

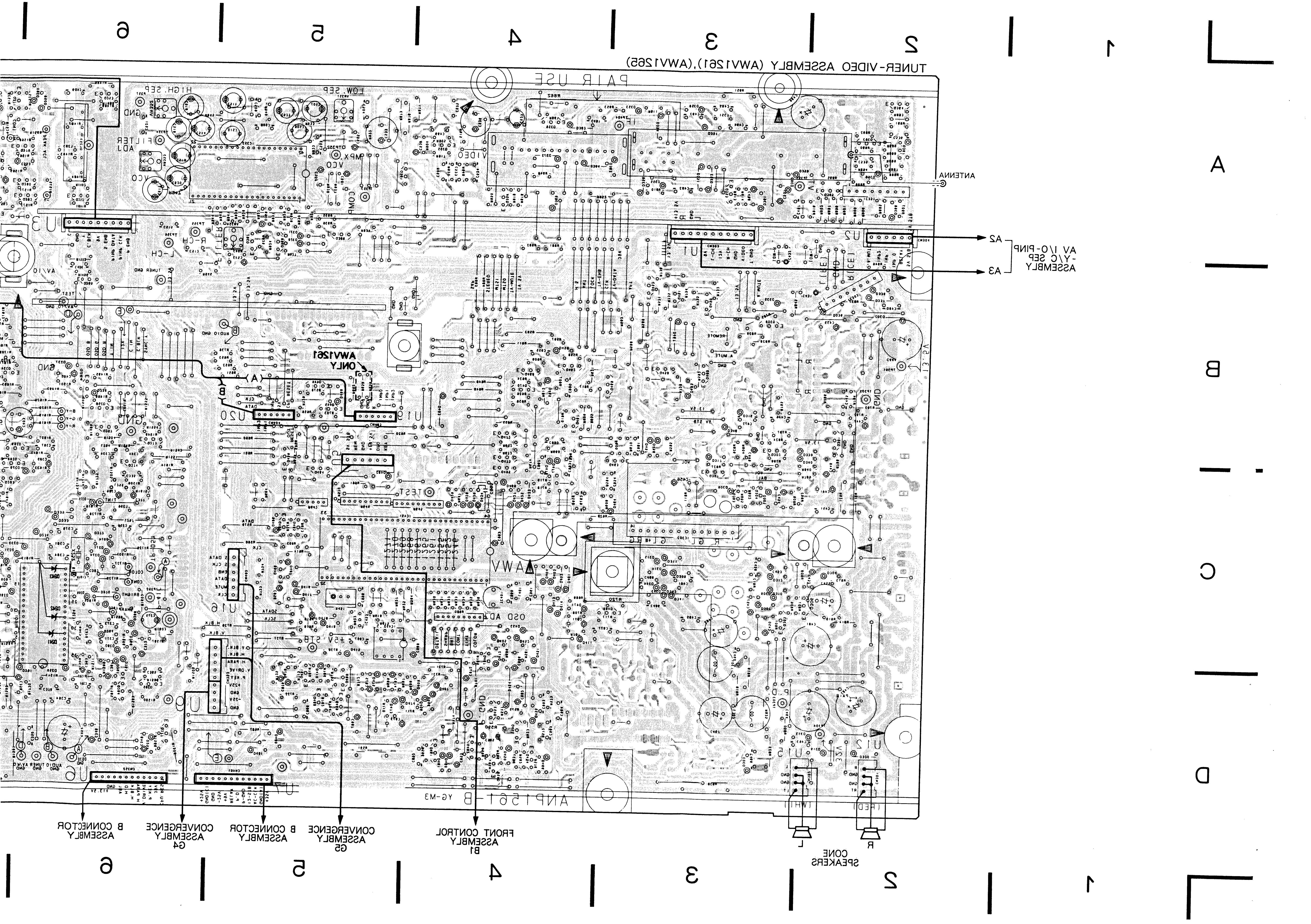

PAIR USE
AV I/O-PINP
-Y/C SEP
ASSEMBLY
A2
A3
ANTENNA
LOW. SEP
HIGH. SEP
FILTER
ADJ
VCO
MPX
VIDEO
U1
U2
U3
AV/IO
AWV1261
ONLY
U19
U20
U16
U9
U7
U6
U12
U15
OSD ADJ
TEST
+5V STB
ANP1561-B
YG-M3
(RED)
(WHT)
R
L
CONE
SPEAKERS
FRONT CONTROL
ASSEMBLY
B1
CONVERGENCE
ASSEMBLY
G5
B CONNECTOR
ASSEMBLY
CONVERGENCE
ASSEMBLY
G4
B CONNECTOR
ASSEMBLY

1
2
3
4
5
6
A
B
C
D

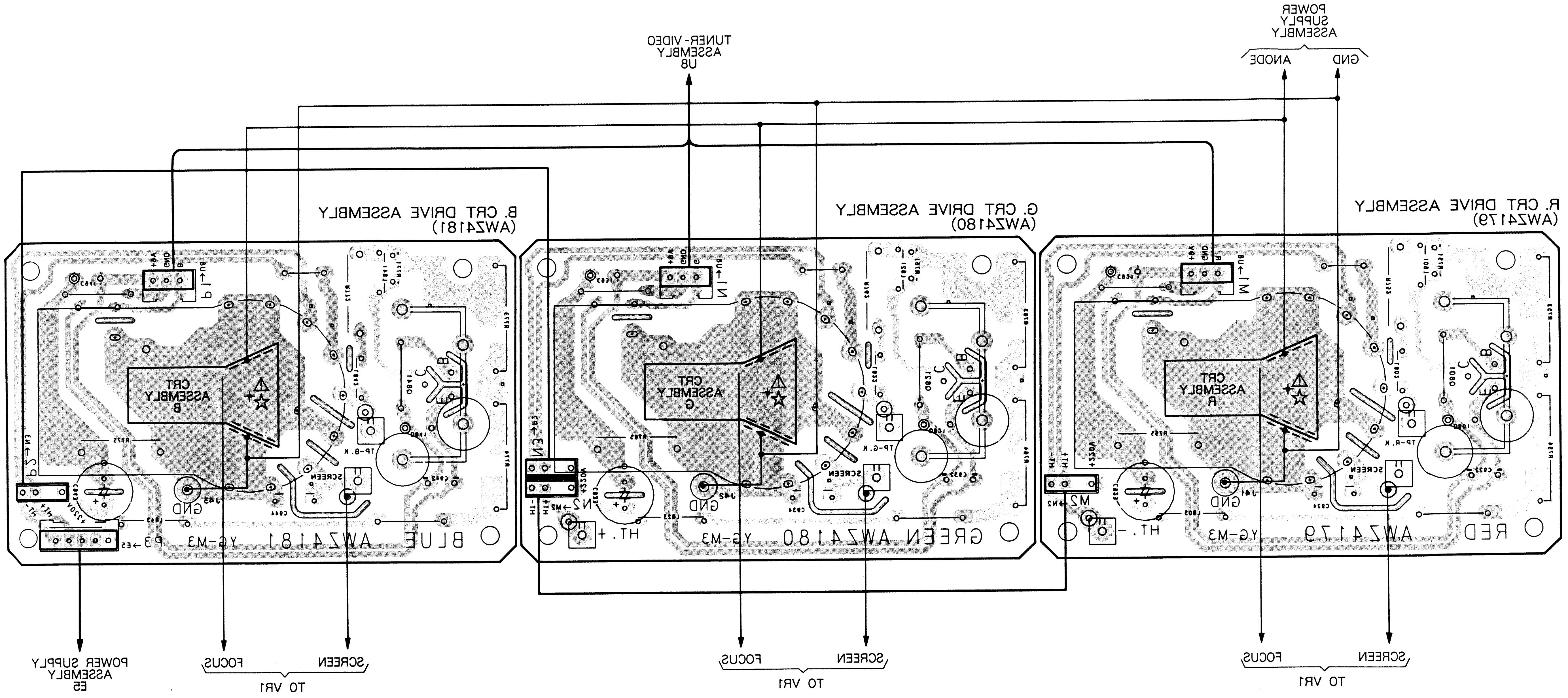

4
5
6
7
8
9
A
B
C
D
1265)
PAIR USE
IF
VIDEO
LOW. SEP
HIGH. SEP
GND
MPX
VCO
FILTER ADJ
VCO
COMP
R-CH
L-CH
TUNER GND
U3
AV/IO
TEST
AUDIO GND
AWV1261 ONLY
GND
U19
U20
U5
TEST
RESET
CLK
DATA
S DATA
S CLK
ENB
DATA
MUTE
CLK
U16
SDATA
SCLK
H. BLK
V. BLK
+5V STB
V. BLK
H. BLK
H. PARA
V. DRIVE
P. KEY
+25V
GND
-25V
GND
U9
OSD ADJ
AWV
R720
COLOR
TINT
BRI
SHARP
DETAIL
SYNC
C. BLK
C. IN
Y. IN
OSD R
OSD G
OSD B
TP-47R
12V
TP-47G
TP-47B
TINT
BRIGHT
SHARP
TP-105Y
CONT
R DRIVE
BLUE LIMM
B DRIVE
GND
TP-46 B-Y
TP-46 R-Y
PEAK ACL
U8
U6
U7
CN401
CN252
AUDIO GND
TUNER GND
AV/IO GND
+13.5V
+13.5V
ANP1561-B
YG-M3
VR351
VR352
VR353
VR354
VR252
VR253
VR251
Q364 Q253 Q271
Q356
Q363
Q355 Q272 Q279
IC352
Q361
IC351 Q365
Q353 Q354 Q280 Q275
Q252 Q282 Q276
Q278 Q292
Q366
Q367 Q297 Q291
Q368
IC303
Q452 Q294
Q451 Q265
Q450
Q308
Q249 Q298
Q239 Q235
Q247 Q243 Q233
Q458 Q462 Q238 Q246
Q460
Q468 Q234 Q248
| Q446 Q236
Q47 Q264 Q232 Q251
Q445 Q300 Q245
Q467
Q256 Q231
Q301 Q472 Q257
Q302 Q273
Q463 Q473 Q289
Q495 Q456
Q307 Q464 Q288 Q274
Q237
Q303 Q293 Q242
Q304 Q244
Q240
Q290
IC302 Q465
Q493
IC451
Q241
Q466 Q250
Q306
Q486 IC254
Q305 IC453
IC452
Q487
Q286
Q488 Q285
| Q284
Q491 Q281
Q453 Q283
Q455 IC253
Q492 Q277
Q461
Q454
Q459
AV I/O-PINP-Y/C SEP ASSEMBLY A1
(A)→L1
(B)→L2
MICROCOMPUTER ASSEMBLY
B.CRT DRIVE ASSEMBLY P1
R.CRT DRIVE ASSEMBLY M1
G.CRT DRIVE ASSEMBLY N1
FRONT CONTROL ASSEMBLY B1
CONVERGENCE ASSEMBLY G5
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY


8
7
6
5
4
A
B
C
D
(AWV1265)
AV I/O-PINP-Y/C SEP ASSEMBLY A1
MICROCOMPUTER ASSEMBLY
(A) L1
(B) L2
B.CRT DRIVE ASSEMBLY P1
R.CRT DRIVE ASSEMBLY M1
G.CRT DRIVE ASSEMBLY N1
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G4
B CONNECTOR ASSEMBLY
CONVERGENCE ASSEMBLY G5
FRONT CONTROL ASSEMBLY B1
AWV1261 ONLY
PAIR USE
HIGH SEP
LOW SEP
FILTER ADJ
VCO
MPX VCO
VIDEO
AV/IO
R DRIVE
B DRIVE
BLUE L1MM
TEST
OSD ADJ
ANP1561-B
9
8
7
6
5
4

This P.C.B. connection diagram is viewed from the foil side.


TUNER-VIDEO ASSEMBLY (AWV1261),(AWV1265)
PAIR USE
ANTENNA
AV I/O-PINP
-Y/C SEP
ASSEMBLY
A2
A3
AWV1261
ONLY
U1
U2
U3
U5
U6
U7
U12
U16
U19
U20
HIGH. SEP
LOW. SEP
FILTER ADJ
VCO
MPX VCO
VIDEO
TEST
OSD ADJ
+5V STB
ANP1561-B
B CONNECTOR
ASSEMBLY
CONVERGENCE
ASSEMBLY
G4
B CONNECTOR
ASSEMBLY
CONVERGENCE
ASSEMBLY
G5
FRONT CONTROL
ASSEMBLY
B1
(WHT)
(RED)
L
R
CONE
SPEAKERS
1
2
3
4
5
6
A
B
C
D

4.5 R., G., AND B. CRT DRIVE ASSEMBLIES

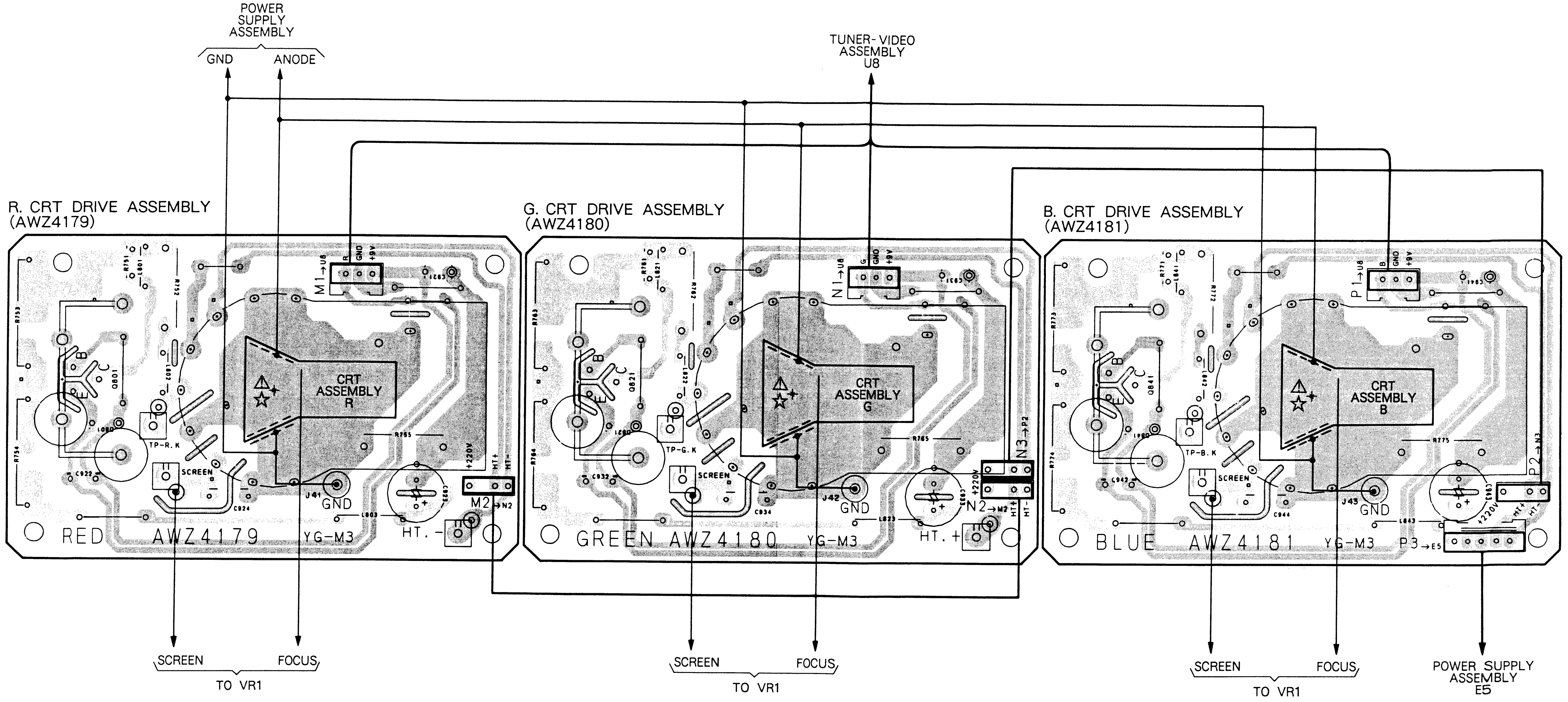

POWER SUPPLY ASSEMBLY
ANODE
GND
TUNER-VIDEO ASSEMBLY U8
B. CRT DRIVE ASSEMBLY (AWZ4181)
G. CRT DRIVE ASSEMBLY (AWZ4180)
R. CRT DRIVE ASSEMBLY (AWZ4179)
CRT ASSEMBLY B
CRT ASSEMBLY G
CRT ASSEMBLY R
BLUE AWZ4181 YG-M3
GREEN AWZ4180 YG-M3
RED AWZ4179 YG-M3
GND
HT.+
HT.-
SCREEN
TP-B.K
TP-G.K
TP-R.K
P3→E5
POWER SUPPLY ASSEMBLY E5
FOCUS
SCREEN
TO VR1

▒ mark shows a high voltage generation point (excepting the charged section).

- Parts marked by ☆ are important parts which relate to X - ray radiation. If any of these parts need to be replaced. Always replace with specified parts.

This P. C. B. connection diagram is viewed from the foil side.

R., G. AND B. CRT DRIVE ASSEMBLIES

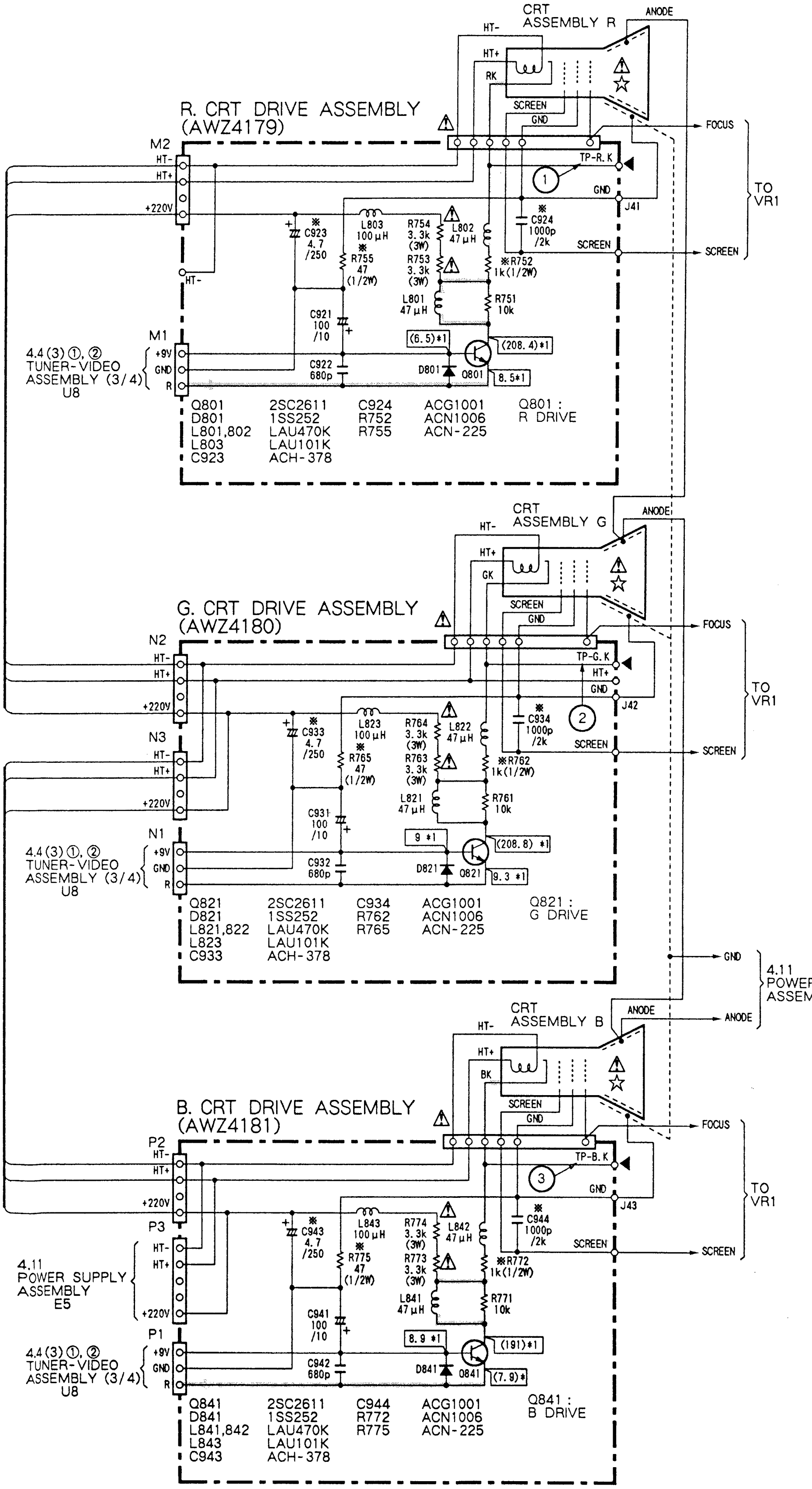

POWER SUPPLY ASSEMBLY
GND
ANODE
TUNER- VIDEO ASSEMBLY U8
R. CRT DRIVE ASSEMBLY (AWZ4179)
G. CRT DRIVE ASSEMBLY (AWZ4180)
B. CRT DRIVE ASSEMBLY (AWZ4181)
M1→U8
R GND +9V
N1→U8
G GND +9V
P1→U8
B GND +9V
CRT ASSEMBLY R
CRT ASSEMBLY G
CRT ASSEMBLY B
Q801
Q821
Q841
TP-R. K
TP-G. K
TP-B. K
SCREEN
J41
J42
J43
GND
+220V
HT+
HT-
M2→N2
N2→M2
N3→P2
P2→N3
P3→E5
HT. -
HT. +
R755
R765
R775
L803
L823
L843
C922
C932
C942
C924
C934
C944
R751
R752
R753
R754
R761
R762
R763
R764
R771
R772
R773
R774
L801
L802
L821
L822
L841
L842
IE63
RED AWZ4179 YG-M3
GREEN AWZ4180 YG-M3
BLUE AWZ4181 YG-M3
SCREEN
FOCUS
TO VR1
SCREEN
FOCUS
TO VR1
SCREEN
FOCUS
TO VR1
POWER SUPPLY ASSEMBLY E5

▨ mark shows a high voltage generation point (excepting the charged section).

- Parts marked by ☆ are important parts which relate to X- ray radiation.
If any of these parts need to replaced. Always replace with specified parts.

R., G. AND B. CRT DRIVE ASSEMBLIES

NOTE : For the part number of the CRT assembly R, G and B, refer to the section 8.2.

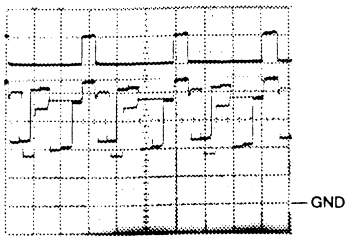


CRT ASSEMBLY R
ANODE
HT-
HT+
RK
SCREEN
GND
R. CRT DRIVE ASSEMBLY (AWZ4179)
M2
HT-
HT+
+220V
HT-
FOCUS
TP-R. K
①
GND
J41
SCREEN
TO VR1
C923 4.7 /250
L803 100µH
R755 47 (1/2W)
R754 3.3k (3W)
R753 3.3k (3W)
L802 47µH
C924 1000p /2k
R752 1k(1/2W)
L801 47µH
R751 10k
C921 100 /10
C922 680p
(6.5)*1
(208.4)*1
8.5*1
D801
Q801
M1
+9V
GND
R
4.4 (3) ①, ② TUNER-VIDEO ASSEMBLY (3/4) U8
Q801 2SC2611
D801 1SS252
L801,802 LAU470K
L803 LAU101K
C923 ACH-378
C924 ACG1001
R752 ACN1006
R755 ACN-225
Q801 : R DRIVE
CRT ASSEMBLY G
ANODE
HT-
HT+
GK
SCREEN
GND
G. CRT DRIVE ASSEMBLY (AWZ4180)
N2
HT-
HT+
+220V
N3
HT-
HT+
+220V
FOCUS
TP-G. K
HT+
GND
J42
②
SCREEN
TO VR1
C933 4.7 /250
L823 100µH
R765 47 (1/2W)
R764 3.3k (3W)
R763 3.3k (3W)
L822 47µH
C934 1000p /2k
R762 1k(1/2W)
L821 47µH
R761 10k
C931 100 /10
C932 680p
9 *1
(208.8) *1
9.3 *1
D821
Q821
N1
+9V
GND
R
4.4 (3) ①, ② TUNER-VIDEO ASSEMBLY (3/4) U8
Q821 2SC2611
D821 1SS252
L821,822 LAU470K
L823 LAU101K
C933 ACH-378
C934 ACG1001
R762 ACN1006
R765 ACN-225
Q821 : G DRIVE
GND
ANODE
4.11 POWER SUPPLY ASSEMBLY
CRT ASSEMBLY B
ANODE
HT-
HT+
BK
SCREEN
GND
B. CRT DRIVE ASSEMBLY (AWZ4181)
P2
HT-
HT+
+220V
P3
HT-
HT+
+220V
4.11 POWER SUPPLY ASSEMBLY E5
FOCUS
TP-B. K
③
GND
J43
SCREEN
TO VR1
C943 4.7 /250
L843 100µH
R775 47 (1/2W)
R774 3.3k (3W)
R773 3.3k (3W)
L842 47µH
C944 1000p /2k
R772 1k(1/2W)
L841 47µH
R771 10k
C941 100 /10
C942 680p
8.9 *1
(191)*1
(7.9)*
D841
Q841
P1
+9V
GND
R
4.4 (3) ①, ② TUNER-VIDEO ASSEMBLY (3/4) U8
Q841 2SC2611
D841 1SS252
L841,842 LAU470K
L843 LAU101K
C943 ACH-378
C944 ACG1001
R772 ACN1006
R775 ACN-225
Q841 : B DRIVE

• Waveformes
- Input signal : Color bar
- Picture quqlity : standard
- Range : DC range (without notice)

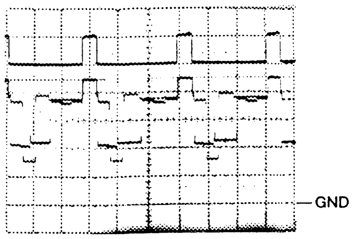
(26) Upper: U6 pin H. BLK
(TUNER-VIDEO ASSEMBLY)
V range : 10V/div.
H range : 20 µsec/div.

① Lower: TP-RK
V range : 50V/div.
H range : 20 µsec/div.



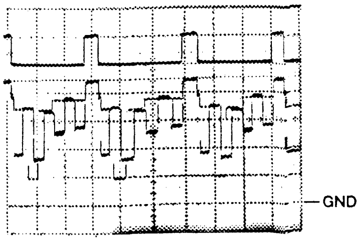
(26) Upper: U6 pin H. BLK
(TUNER-VIDEO ASSEMBLY)
V range : 10V/div.
H range : 20 µsec/div.

② Lower: TP-GK
V range : 50V/div.
H range : 20 µsec/div.



(26) Upper: U6 pin H. BLK
(TUNER-VIDEO ASSEMBLY)
V range : 10V/div.
H range : 20 µsec/div.

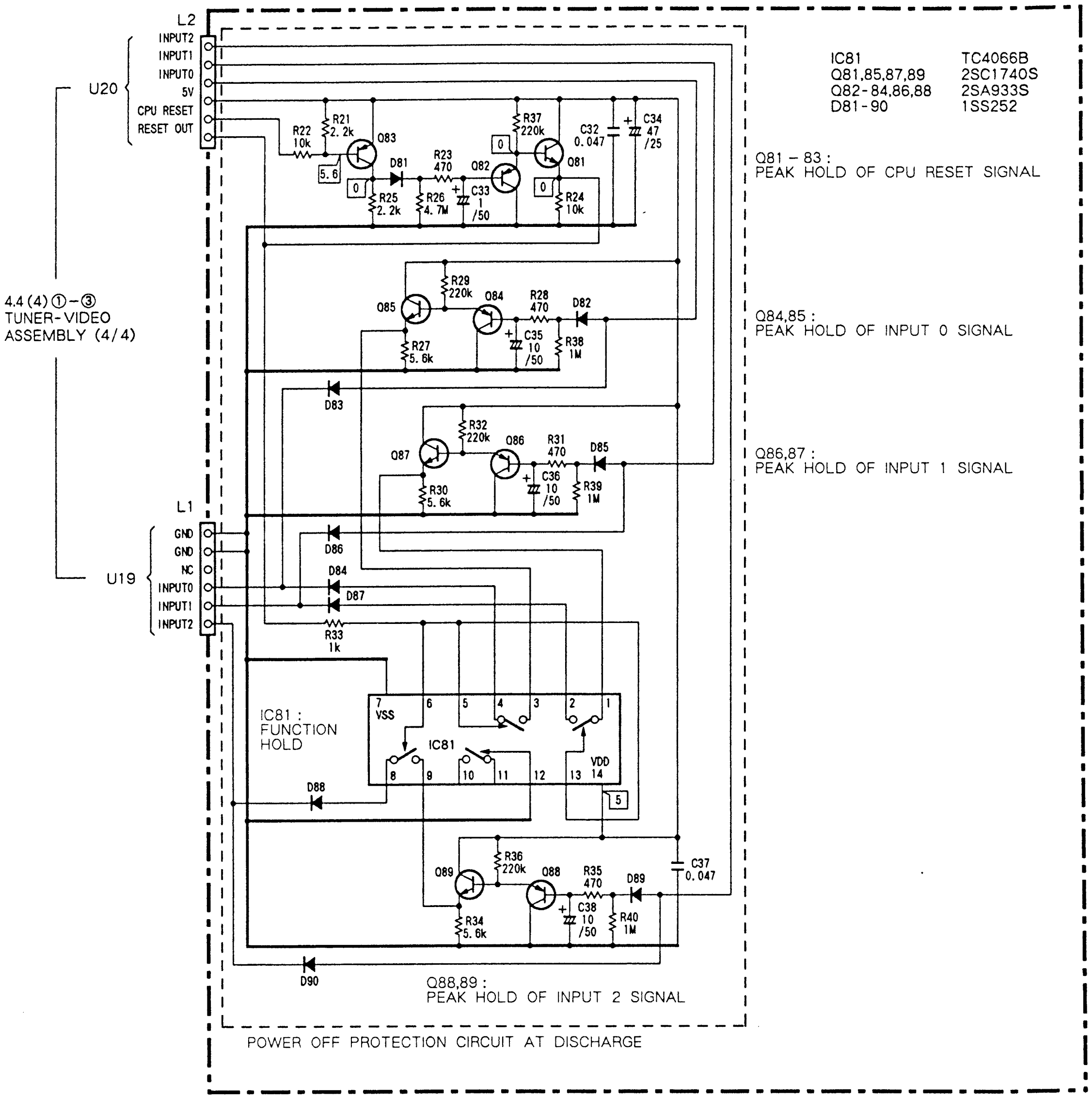
③ Lower: TP-BK
V range : 50V/div.
H range : 20 µsec/div.



*1 : DC voltage (V) is measured with the digital voltmeter at no input signal.
Value in ( ) is DC + AC mode.

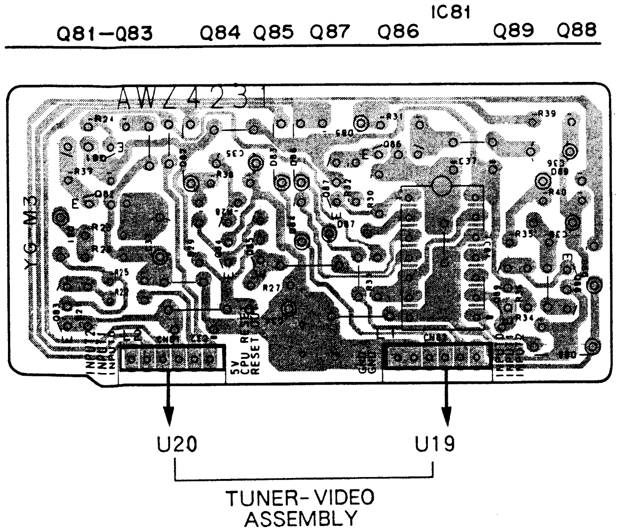
4.6 MICROCOMPUTER ASSEMBLY

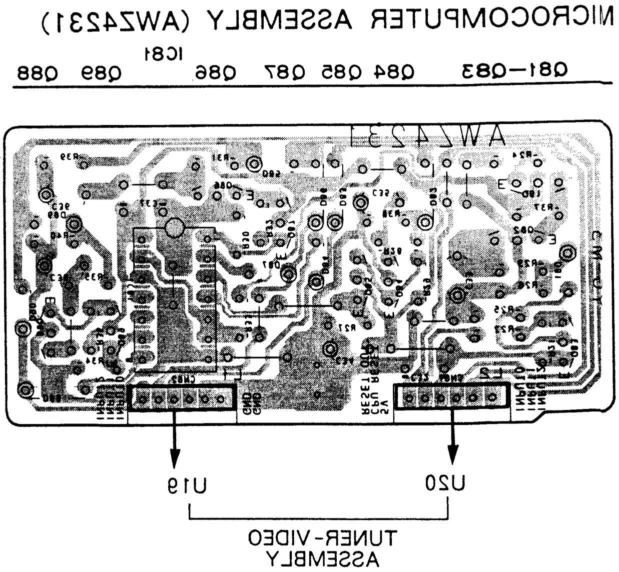
MICROCOMPUTER ASSEMBLY (AWZ4231)


L2
INPUT2
INPUT1
INPUT0
5V
CPU RESET
RESET OUT
U20
4.4 (4) ①-③
TUNER-VIDEO
ASSEMBLY (4/4)
U19
L1
GND
GND
NC
INPUT0
INPUT1
INPUT2
IC81 TC4066B
Q81,85,87,89 2SC1740S
Q82-84,86,88 2SA933S
D81-90 1SS252
Q81 – 83 :
PEAK HOLD OF CPU RESET SIGNAL
Q84,85 :
PEAK HOLD OF INPUT 0 SIGNAL
Q86,87 :
PEAK HOLD OF INPUT 1 SIGNAL
Q88,89 :
PEAK HOLD OF INPUT 2 SIGNAL
IC81 :
FUNCTION
HOLD
VSS
VDD
POWER OFF PROTECTION CIRCUIT AT DISCHARGE
R21 2.2k
R22 10k
Q83
5.6
0
D81
R23 470
Q82
R25 2.2k
R26 4.7M
C33 1 /50
R37 220k
0
Q81
C32 0.047
C34 47 /25
0
R24 10k
R29 220k
Q85
Q84
R28 470
D82
R27 5.6k
C35 10 /50
R38 1M
D83
R32 220k
Q87
Q86
R31 470
D85
R30 5.6k
C36 10 /50
R39 1M
D86
D84
D87
R33 1k
D88
5
R36 220k
Q89
Q88
R35 470
D89
C37 0.047
R34 5.6k
C38 10 /50
R40 1M
D90

: DC voltage (V) at no input signal.

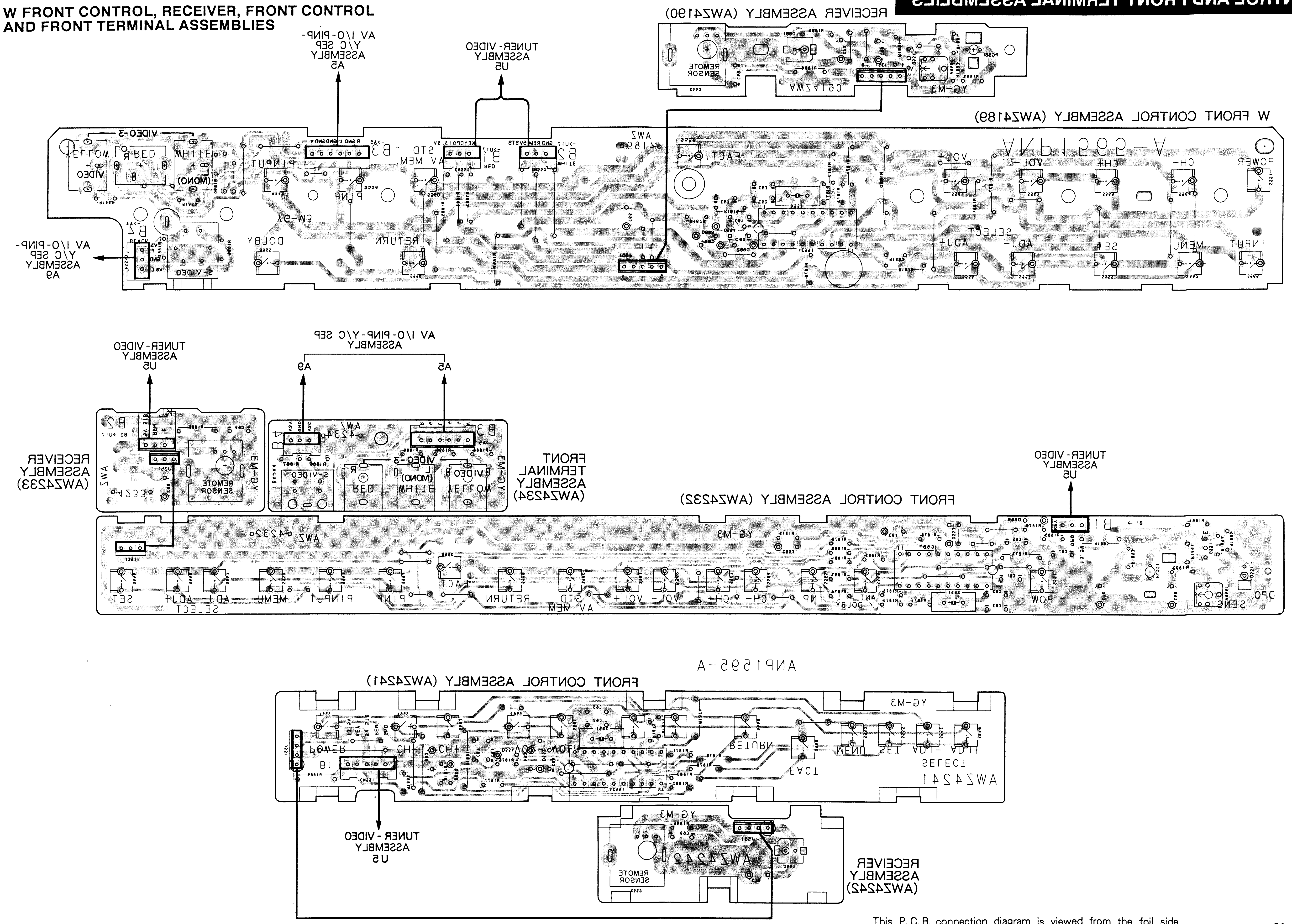
MICROCOMPUTER ASSEMBLY (AWZ4231)


IC81
Q81–Q83
Q84 Q85 Q87 Q86
Q89 Q88
AWZ4231
U20
U19
TUNER-VIDEO
ASSEMBLY


MICROCOMPUTER ASSEMBLY (AWZ4231)
IC81
Q88 Q89
Q86 Q87 Q85 Q84
Q81–Q83
AWZ4231
U19
U20
TUNER-VIDEO
ASSEMBLY

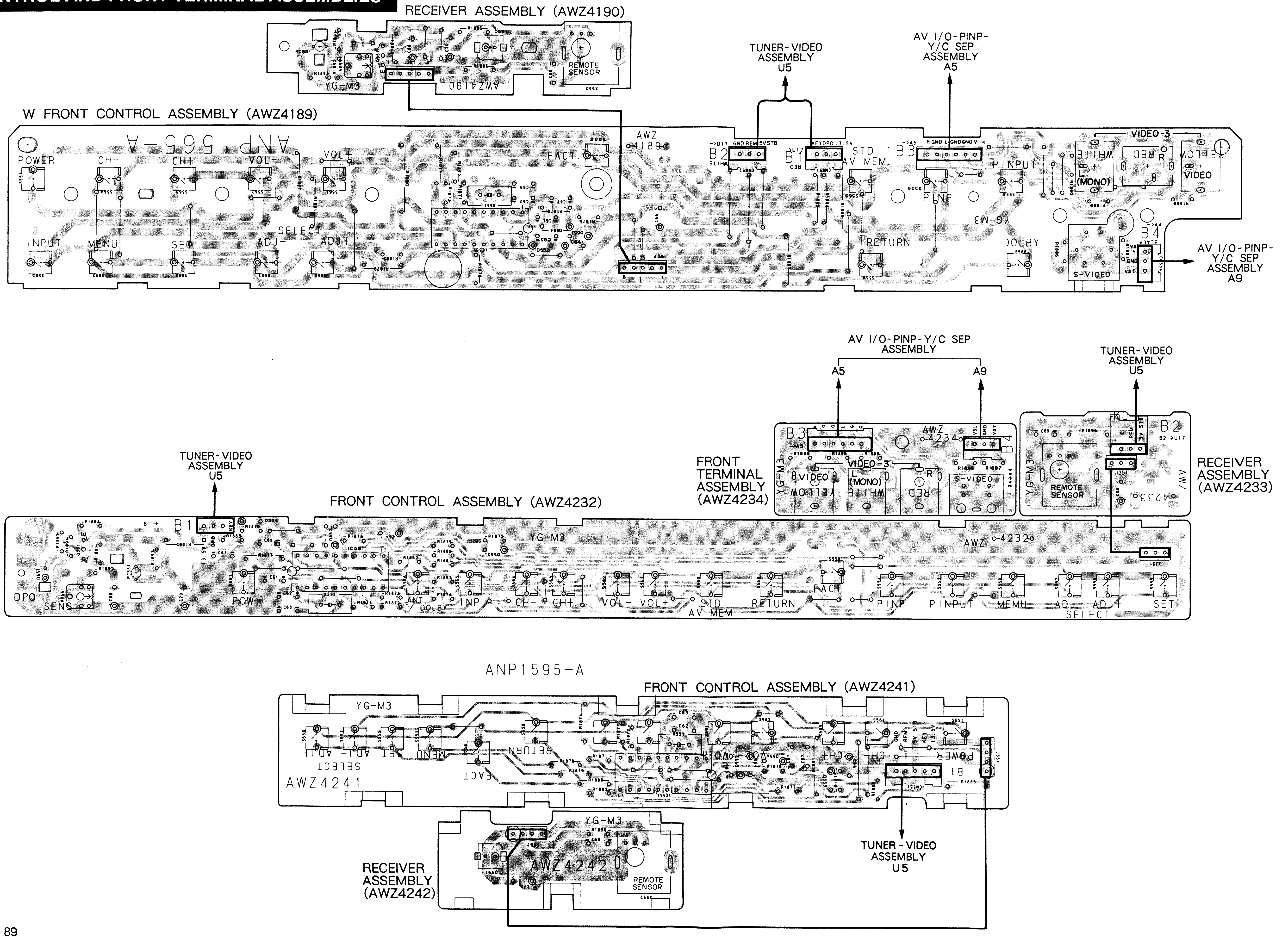
This P. C. B. connection diagram is viewed from the foil side.

4.7 W FRONT CONTROL, RECEIVER, FRONT CONTROL AND FRONT TERMINAL ASSEMBLIES

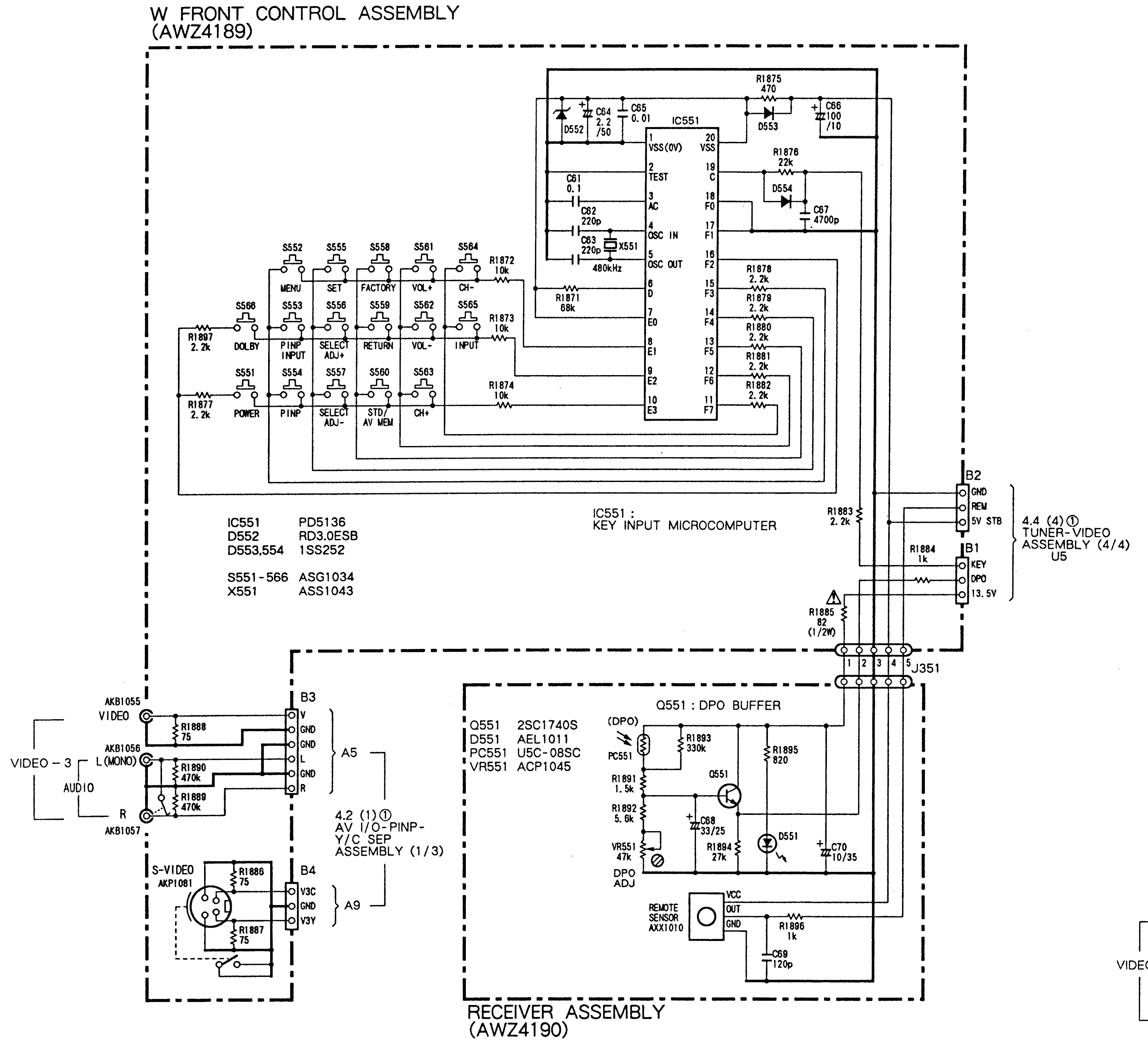

RECEIVER ASSEMBLY (AWZ4190)
REMOTE SENSOR
AWZ4190
YG-M3
AV I/O-PINP-Y/C SEP ASSEMBLY A5
TUNER-VIDEO ASSEMBLY U5
W FRONT CONTROL ASSEMBLY (AWZ4189)
ANP1596-A
VIDEO-3
YELLOW
R RED
WHITE
VIDEO
(MONO)
PINPUT
B3
STD
AV MEM
B1
B2
AWZ 4189
FACT
VOL+
VOL-
CH+
CH-
POWER
PINP
YG-M3
DOLBY
RETURN
SELECT
ADJ+
ADJ-
SET
MENU
INPUT
B4
S-VIDEO
AV I/O-PINP-Y/C SEP ASSEMBLY A9
TUNER-VIDEO ASSEMBLY U5
AV I/O-PINP-Y/C SEP ASSEMBLY
A9
A5
B2
RECEIVER ASSEMBLY (AWZ4233)
REMOTE SENSOR
AWZ4233
YG-M3
B4
AWZ4234
B3
S-VIDEO
VIDEO-3
R
RED
(MONO)
WHITE
VIDEO
YELLOW
FRONT TERMINAL ASSEMBLY (AWZ4234)
FRONT CONTROL ASSEMBLY (AWZ4232)
TUNER-VIDEO ASSEMBLY U5
AWZ4232
YG-M3
B1
SET
ADJ+
ADJ-
SELECT
MEMU
PINPUT
PINP
FACT
RETURN
STD
AV MEM
VOL+
VOL-
CH+
CH-
INP
ANT
DOLBY
POW
OPO SENS
ANP1595-A
FRONT CONTROL ASSEMBLY (AWZ4241)
YG-M3
POWER
CH-
CH+
B1
VOL
RETURN
MENU
SET
ADJ-
ADJ+
SELECT
FACT
AWZ4241
TUNER-VIDEO ASSEMBLY U5
YG-M3
REMOTE SENSOR
AWZ4242
RECEIVER ASSEMBLY (AWZ4242)

This P.C.B. connection diagram is viewed from the foil side.

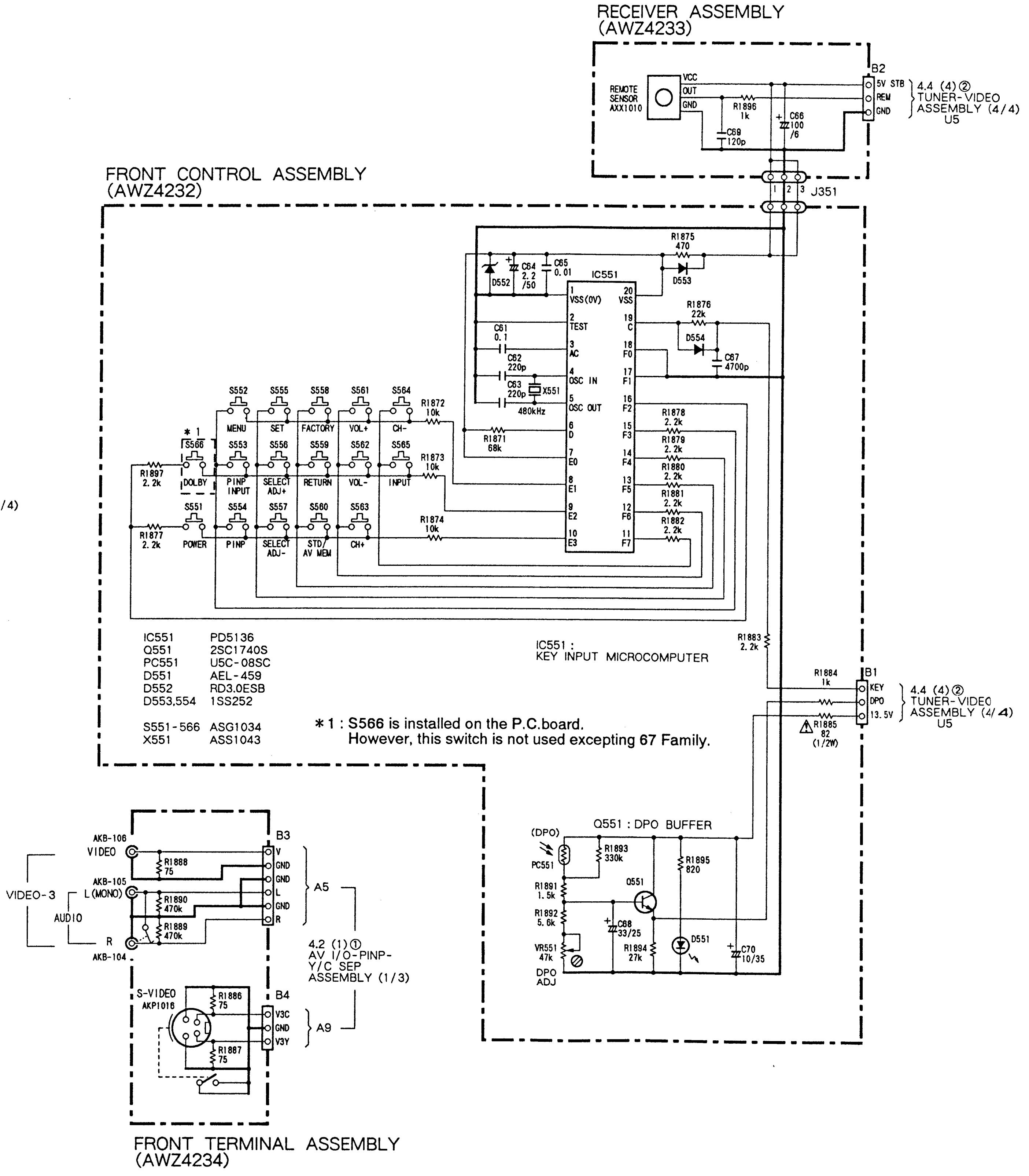
W FRONT CONTROL, RECEIVER, FRONT CONTROL AND FRONT TERMINAL ASSEMBLIES


RECEIVER ASSEMBLY (AWZ4190)
REMOTE SENSOR
YG-M3
AWZ4190
TUNER-VIDEO ASSEMBLY U5
AV I/O-PINP-Y/C SEP ASSEMBLY A5
W FRONT CONTROL ASSEMBLY (AWZ4189)
ANP1565-A
POWER
CH-
CH+
VOL-
VOL+
FACT.
AWZ 4189
B2
B1
B3
STD
AV MEM.
PINPUT
VIDEO-3
WHITE
L (MONO)
RED
R
YELLOW
VIDEO
INPUT
MENU
SET
SELECT
ADJ-
ADJ+
RETURN
PINP
DOLBY
B4
S-VIDEO
AV I/O-PINP-Y/C SEP ASSEMBLY A9
AV I/O-PINP-Y/C SEP ASSEMBLY
A5
A9
TUNER-VIDEO ASSEMBLY U5
FRONT TERMINAL ASSEMBLY (AWZ4234)
AWZ 4234
RECEIVER ASSEMBLY (AWZ4233)
AWZ 4233
FRONT CONTROL ASSEMBLY (AWZ4232)
AWZ 4232
DPO
SENS
POW
ANT
DOLBY
INP
STD
AV MEM
RETURN
FACT
PINP
PINPUT
MEMU
ADJ-
ADJ+
SELECT
SET
ANP1595-A
FRONT CONTROL ASSEMBLY (AWZ4241)
AWZ4241
YG-M3
RECEIVER ASSEMBLY (AWZ4242)
AWZ4242
REMOTE SENSOR
TUNER-VIDEO ASSEMBLY U5

(1) W FRONT CONTROL ASSEMBLY (AWZ4189) and RECEIVER ASSEMBLY (AWZ4190)

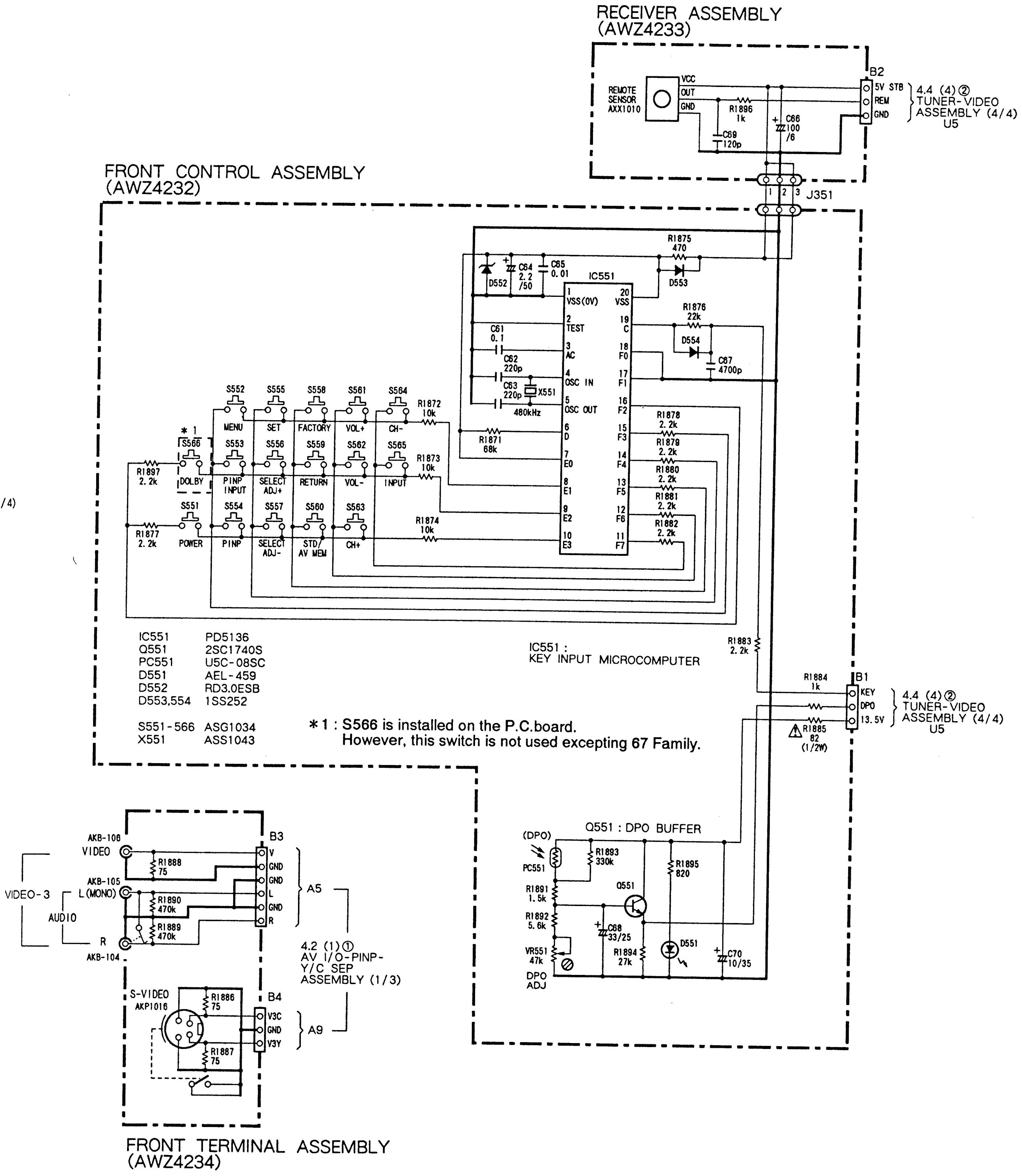

W FRONT CONTROL ASSEMBLY
(AWZ4189)
IC551
R1875 470
C64 2.2/50
C65 0.01
C66 100/10
D552
D553
R1876 22k
D554
C67 4700p
C61 0.1
C62 220p
C63 220p
X551
480kHz
VSS(0V)
TEST
AC
OSC IN
OSC OUT
D
E0
E1
E2
E3
VSS
C
F0
F1
F2
F3
F4
F5
F6
F7
S552 MENU
S555 SET
S558 FACTORY
S561 VOL+
S564 CH-
S566 DOLBY
S553 PINP INPUT
S556 SELECT ADJ+
S559 RETURN
S562 VOL-
S565 INPUT
S551 POWER
S554 PINP
S557 SELECT ADJ-
S560 STD/AV MEM
S563 CH+
R1872 10k
R1873 10k
R1874 10k
R1871 68k
R1878 2.2k
R1879 2.2k
R1880 2.2k
R1881 2.2k
R1882 2.2k
R1897 2.2k
R1877 2.2k
IC551 PD5136
D552 RD3.0ESB
D553,554 1SS252
S551-566 ASG1034
X551 ASS1043
IC551 : KEY INPUT MICROCOMPUTER
R1883 2.2k
R1884 1k
R1885 82 (1/2W)
B2 GND REM 5V STB
B1 KEY DPO 13.5V
4.4 (4)① TUNER-VIDEO ASSEMBLY (4/4) U5
J351
AKB1055 VIDEO
AKB1056 L(MONO)
AKB1057 R
VIDEO-3
AUDIO
R1888 75
R1890 470k
R1889 470k
B3 V GND GND L GND R
A5
4.2 (1)① AV I/O-PINP-Y/C SEP ASSEMBLY (1/3)
S-VIDEO AKP1081
R1886 75
R1887 75
B4 V3C GND V3Y
A9
Q551 : DPO BUFFER
Q551 2SC1740S
D551 AEL1011
PC551 U5C-08SC
VR551 ACP1045
(DPO)
PC551
R1893 330k
R1895 820
R1891 1.5k
R1892 5.6k
C68 33/25
R1894 27k
D551
C70 10/35
VR551 47k
DPO ADJ
REMOTE SENSOR AXX1010
VCC OUT GND
R1896 1k
C69 120p
RECEIVER ASSEMBLY
(AWZ4190)

(2) FRONT CONTROL ASSEMBLY (AWZ4232) , RECEIVER ASSEMBLY (AWZ4233) and FRONT TERMINAL ASSEMBLY (AWZ4234)


RECEIVER ASSEMBLY
(AWZ4233)
REMOTE SENSOR AXX1010
VCC OUT GND
R1896 1k
C69 120p
C66 100/6
B2 5V STB REM GND
4.4 (4)② TUNER-VIDEO ASSEMBLY (4/4) U5
J351
FRONT CONTROL ASSEMBLY
(AWZ4232)
IC551
R1875 470
C64 2.2/50
C65 0.01
D552
D553
R1876 22k
D554
C67 4700p
C61 0.1
C62 220p
C63 220p
X551
480kHz
S552 MENU
S555 SET
S558 FACTORY
S561 VOL+
S564 CH-
*1 S566 DOLBY
S553 PINP INPUT
S556 SELECT ADJ+
S559 RETURN
S562 VOL-
S565 INPUT
S551 POWER
S554 PINP
S557 SELECT ADJ-
S560 STD/AV MEM
S563 CH+
R1872 10k
R1873 10k
R1874 10k
R1871 68k
R1878 2.2k
R1879 2.2k
R1880 2.2k
R1881 2.2k
R1882 2.2k
R1897 2.2k
R1877 2.2k
IC551 PD5136
Q551 2SC1740S
PC551 U5C-08SC
D551 AEL-459
D552 RD3.0ESB
D553,554 1SS252
S551-566 ASG1034
X551 ASS1043
IC551 : KEY INPUT MICROCOMPUTER
*1 : S566 is installed on the P.C.board. However, this switch is not used excepting 67 Family.
R1883 2.2k
R1884 1k
R1885 82 (1/2W)
B1 KEY DPO 13.5V
4.4 (4)② TUNER-VIDEO ASSEMBLY (4/4) U5
Q551 : DPO BUFFER
(DPO)
PC551
R1893 330k
R1895 820
R1891 1.5k
R1892 5.6k
C68 33/25
R1894 27k
D551
C70 10/35
VR551 47k
DPO ADJ
AKB-106 VIDEO
AKB-105 L(MONO)
AKB-104 R
VIDEO-3
AUDIO
R1888 75
R1890 470k
R1889 470k
B3 V GND GND L GND R
A5
4.2 (1)① AV I/O-PINP-Y/C SEP ASSEMBLY (1/3)
S-VIDEO AKP1016
R1886 75
R1887 75
B4 V3C GND V3Y
A9
FRONT TERMINAL ASSEMBLY
(AWZ4234)

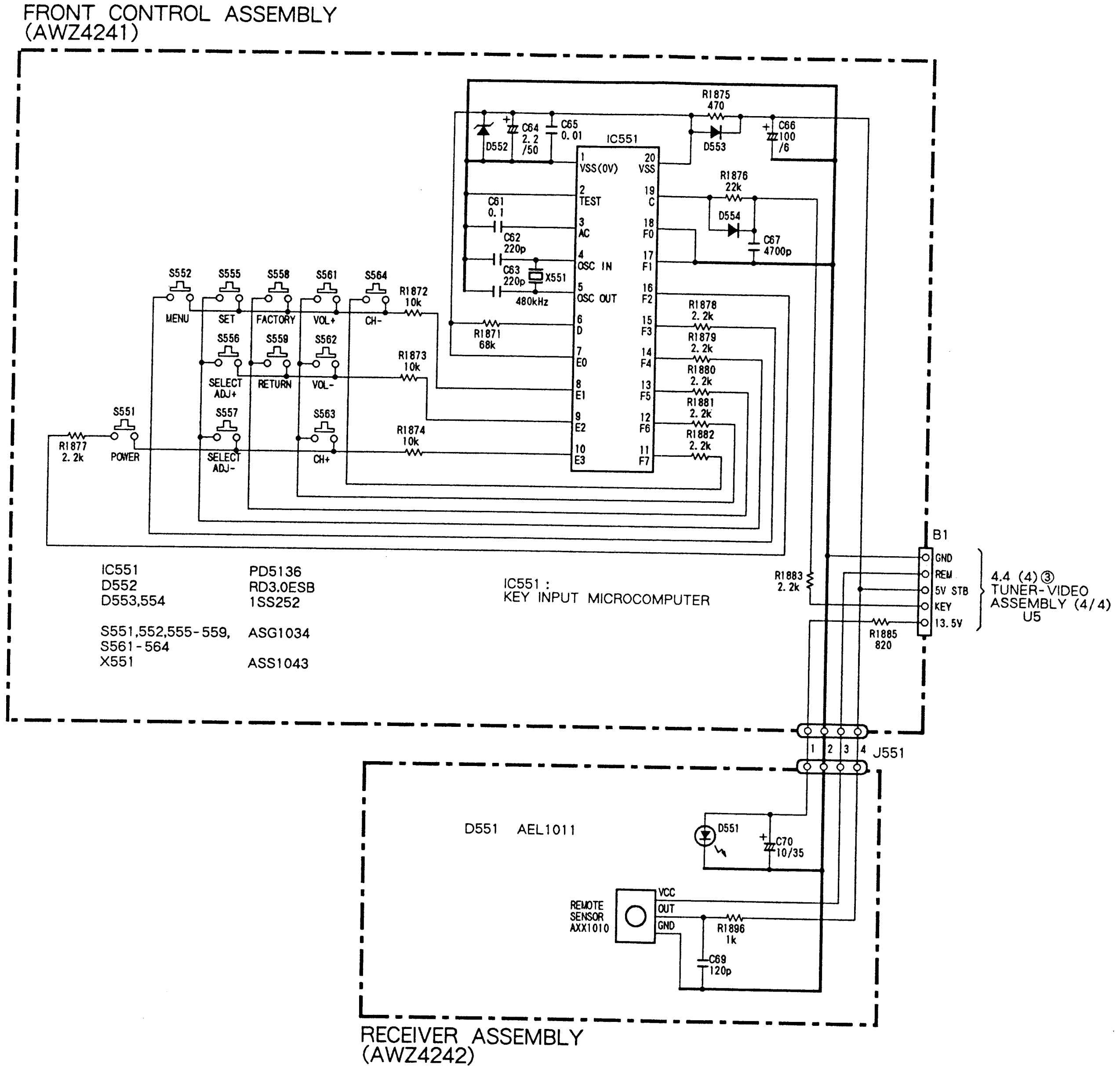
(3) F

(2) FRONT CONTROL ASSEMBLY (AWZ4232) , RECEIVER ASSEMBLY (AWZ4233) and FRONT TERMINAL ASSEMBLY (AWZ4234)

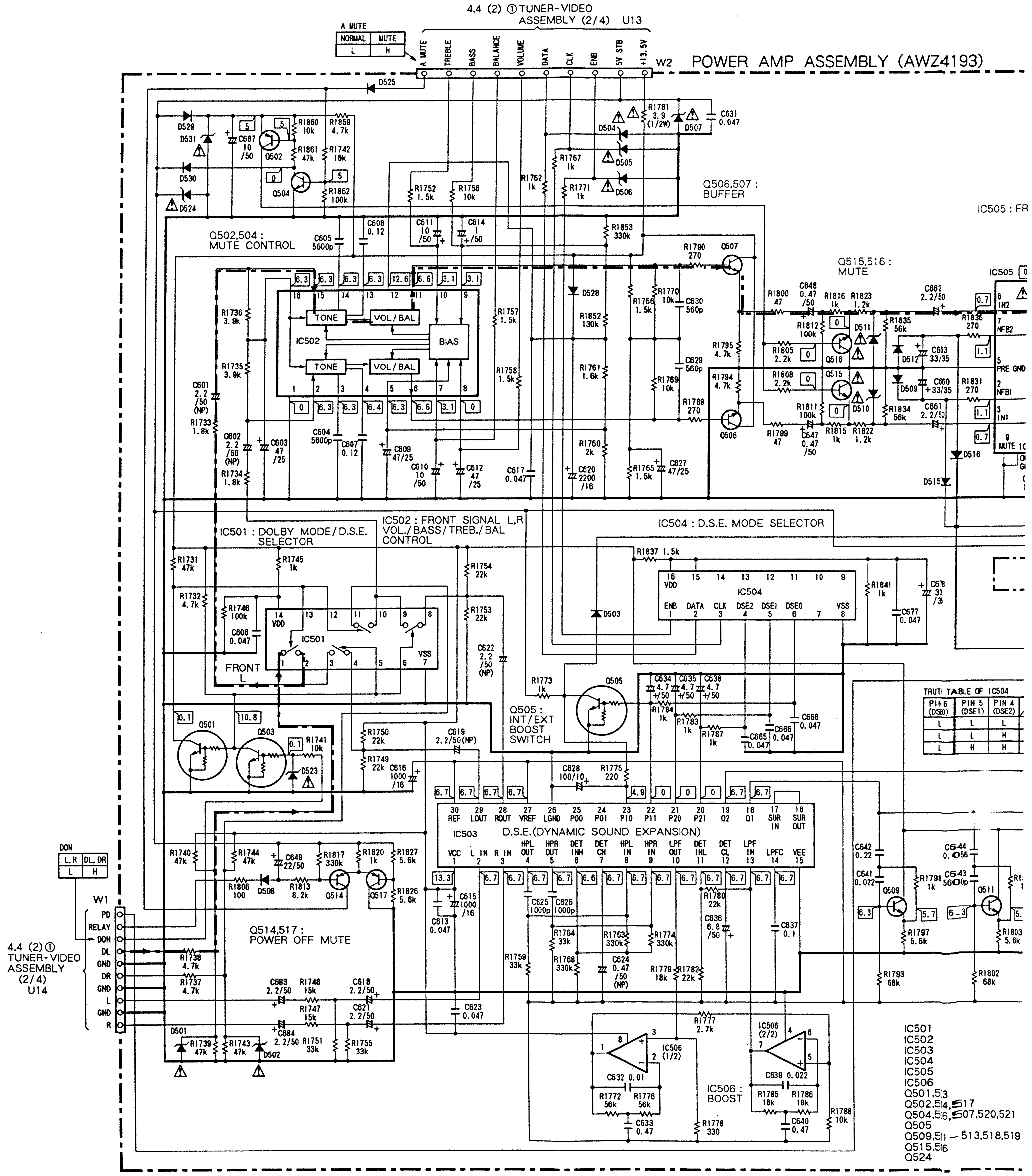

RECEIVER ASSEMBLY (AWZ4233)
REMOTE SENSOR AXX1010
VCC
OUT
GND
R1896 1k
C69 120p
C66 100 /6
B2
5V STB
REM
GND
4.4 (4)② TUNER-VIDEO ASSEMBLY (4/4) U5
J351
FRONT CONTROL ASSEMBLY (AWZ4232)
R1875 470
D553
D552
C64 2.2 /50
C65 0.01
IC551
VSS(0V)
VSS
TEST
C
AC
F0
OSC IN
F1
OSC OUT
F2
D
F3
E0
F4
E1
F5
E2
F6
E3
F7
R1876 22k
D554
C67 4700p
C61 0.1
C62 220p
C63 220p
X551 480kHz
R1871 68k
R1872 10k
R1873 10k
R1874 10k
R1878 2.2k
R1879 2.2k
R1880 2.2k
R1881 2.2k
R1882 2.2k
S552 MENU
S555 SET
S558 FACTORY
S561 VOL+
S564 CH-
*1 S566 DOLBY
S553 PINP INPUT
S556 SELECT ADJ+
S559 RETURN
S562 VOL-
S565 INPUT
S551 POWER
S554 PINP
S557 SELECT ADJ-
S560 STD/AV MEM
S563 CH+
R1897 2.2k
R1877 2.2k
IC551 PD5136
Q551 2SC1740S
PC551 U5C-08SC
D551 AEL-459
D552 RD3.0ESB
D553,554 1SS252
S551-566 ASG1034
X551 ASS1043
IC551 : KEY INPUT MICROCOMPUTER
R1883 2.2k
R1884 1k
R1885 82 (1/2W)
B1
KEY
DPO
13.5V
4.4 (4)② TUNER-VIDEO ASSEMBLY (4/4) U5
Q551 : DPO BUFFER
(DPO)
PC551
R1893 330k
R1895 820
R1891 1.5k
R1892 5.6k
Q551
C68 33/25
VR551 47k
DPO ADJ
R1894 27k
D551
C70 10/35
AKB-106
VIDEO
AKB-105
L (MONO)
R
AKB-104
VIDEO-3
AUDIO
R1888 75
R1890 470k
R1889 470k
B3
V
GND
GND
L
GND
R
A5
4.2 (1)① AV I/O-PINP-Y/C SEP ASSEMBLY (1/3)
S-VIDEO AKP1016
R1886 75
R1887 75
B4
V3C
GND
V3Y
A9
FRONT TERMINAL ASSEMBLY (AWZ4234)

*1 : S566 is installed on the P.C.board.
However, this switch is not used excepting 67 Family.

(3) FRONT CONTROL ASSEMBLY (AWZ4241) and RECEIVER ASSEMBLY (AWZ4242)


FRONT CONTROL ASSEMBLY (AWZ4241)
R1875 470
D552
C64 2.2 /50
C65 0.01
IC551
C66 100 /6
D553
VSS(0V)
VSS
TEST
C
AC
F0
OSC IN
F1
OSC OUT
F2
D
F3
E0
F4
E1
F5
E2
F6
E3
F7
C61 0.1
C62 220p
C63 220p
X551 480kHz
R1876 22k
D554
C67 4700p
S552 MENU
S555 SET
S558 FACTORY
S561 VOL+
S564 CH-
S556 SELECT ADJ+
S559 RETURN
S562 VOL-
S551 POWER
S557 SELECT ADJ-
S563 CH+
R1872 10k
R1871 68k
R1873 10k
R1874 10k
R1877 2.2k
R1878 2.2k
R1879 2.2k
R1880 2.2k
R1881 2.2k
R1882 2.2k
IC551 PD5136
D552 RD3.0ESB
D553,554 1SS252
S551,552,555-559, S561-564 ASG1034
X551 ASS1043
IC551 : KEY INPUT MICROCOMPUTER
R1883 2.2k
R1885 820
B1
GND
REM
5V STB
KEY
13.5V
4.4 (4)③ TUNER-VIDEO ASSEMBLY (4/4) U5
J551
D551 AEL1011
D551
C70 10/35
REMOTE SENSOR AXX1010
VCC
OUT
GND
R1896 1k
C69 120p
RECEIVER ASSEMBLY (AWZ4242)

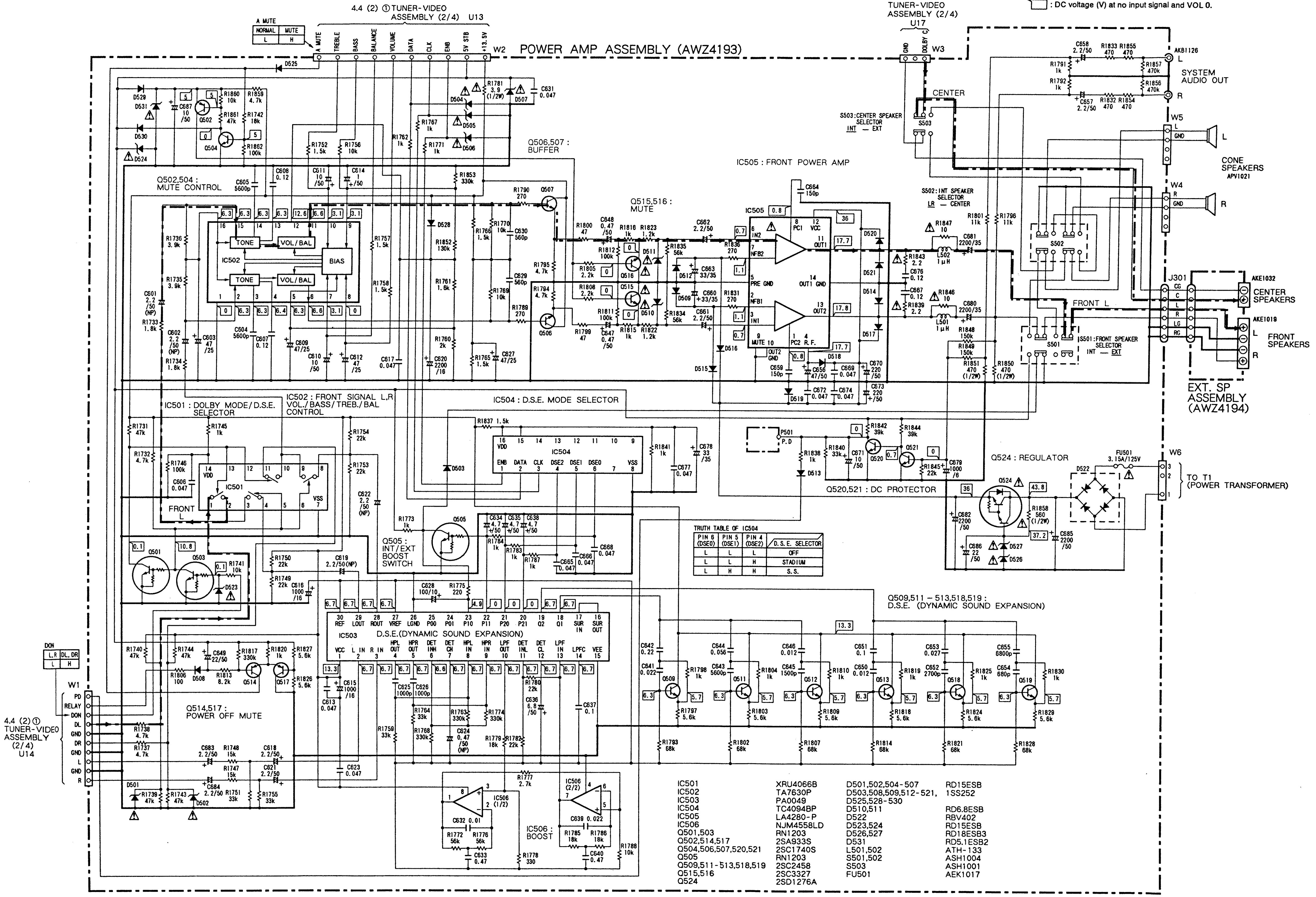
4.8 POWER AMP AND EXT. SP ASSEMBLIES


4.4 (2) ① TUNER-VIDEO ASSEMBLY (2/4) U13
A MUTE
NORMAL
MUTE
L
H
A MUTE
TREBLE
BASS
BALANCE
VOLUME
DATA
CLK
ENB
5V STB
+13.5V
W2
POWER AMP ASSEMBLY (AWZ4193)
Q502,504 : MUTE CONTROL
Q506,507 : BUFFER
Q515,516 : MUTE
IC505 : FR
TONE
VOL/BAL
BIAS
IC502
IC501 : DOLBY MODE/D.S.E. SELECTOR
IC502 : FRONT SIGNAL L,R VOL./BASS/TREB./BAL CONTROL
IC504 : D.S.E. MODE SELECTOR
IC504
VDD
ENB
DATA
CLK
DSE2
DSE1
DSE0
VSS
IC501
FRONT L
Q505 : INT/EXT BOOST SWITCH
IC503
D.S.E.(DYNAMIC SOUND EXPANSION)
Q514,517 : POWER OFF MUTE
IC506 (1/2)
IC506 (2/2)
IC506 : BOOST
DON
L,R
DL,DR
L
H
W1
PD
RELAY
DON
DL
GND
DR
GND
L
GND
R
4.4 (2)① TUNER-VIDEO ASSEMBLY (2/4) U14
IC501
IC502
IC503
IC504
IC505
IC506
Q501,503
Q502,514,517
Q504,516,507,520,521
Q505
Q509,511 – 513,518,519
Q515,516
Q524

TRUTH TABLE OF IC504

PIN 6 (DSE0)	PIN 5 (DSE1)	PIN 4 (DSE2)
L	L	L
L	L	H
L	H	H

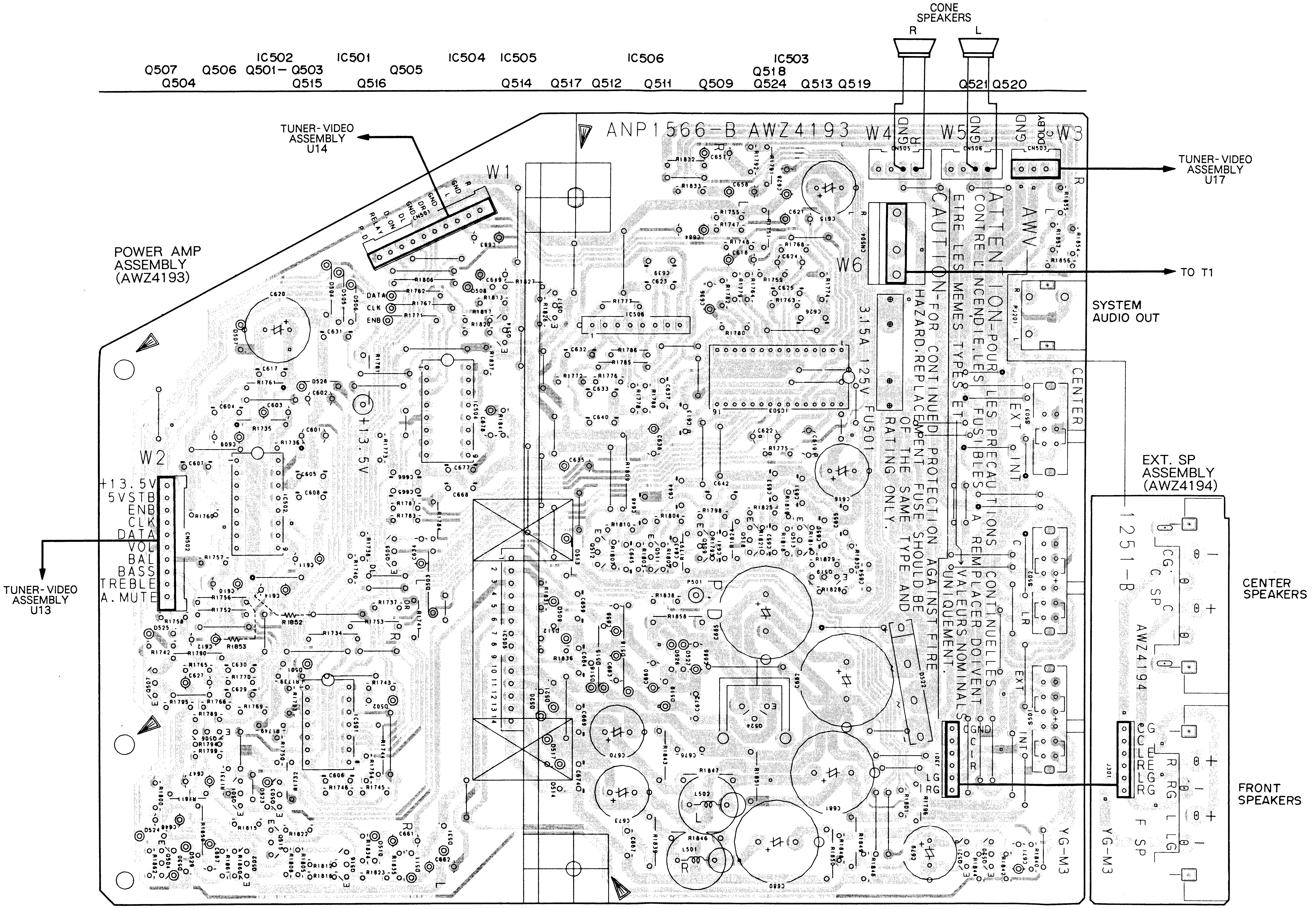
4.8 POWER AMP AND EXT. SP ASSEMBLIES


4.4 (2) ① TUNER-VIDEO ASSEMBLY (2/4) U13
A MUTE
NORMAL MUTE
L H
A MUTE
TREBLE
BASS
BALANCE
VOLUME
DATA
CLK
ENB
5V STB
+13.5V
W2
POWER AMP ASSEMBLY (AWZ4193)
4.4 (2) ① TUNER-VIDEO ASSEMBLY (2/4) U17
GND
DOLBY
W3
▭ : DC voltage (V) at no input signal and VOL 0.
AKB1126
SYSTEM AUDIO OUT
L
R
CENTER
S503 : CENTER SPEAKER SELECTOR INT — EXT
W5
CONE SPEAKERS APV1021
W4
Q506,507 : BUFFER
IC505 : FRONT POWER AMP
Q502,504 : MUTE CONTROL
Q515,516 : MUTE
S502 : INT SPEAKER SELECTOR LR — CENTER
J301
AKE1032
CENTER SPEAKERS
AKE1019
FRONT SPEAKERS
FRONT L
S501 : FRONT SPEAKER SELECTOR INT — EXT
EXT. SP ASSEMBLY (AWZ4194)
IC502
TONE
VOL/BAL
BIAS
IC501 : DOLBY MODE/D.S.E. SELECTOR
IC502 : FRONT SIGNAL L,R VOL./BASS/TREB./BAL CONTROL
IC504 : D.S.E. MODE SELECTOR
IC504
P501 P.D
Q520,521 : DC PROTECTOR
Q524 : REGULATOR
FU501 3.15A/125V
W6
TO T1 (POWER TRANSFORMER)
Q505 : INT/EXT BOOST SWITCH
Q509,511 – 513,518,519 : D.S.E. (DYNAMIC SOUND EXPANSION)
IC503 D.S.E.(DYNAMIC SOUND EXPANSION)
DON
L,R DL,DR
L H
W1
PD
RELAY
DON
DL
GND
DR
GND
L
GND
R
4.4 (2) ① TUNER-VIDEO ASSEMBLY (2/4) U14
Q514,517 : POWER OFF MUTE
IC506 : BOOST
A
B
C
D

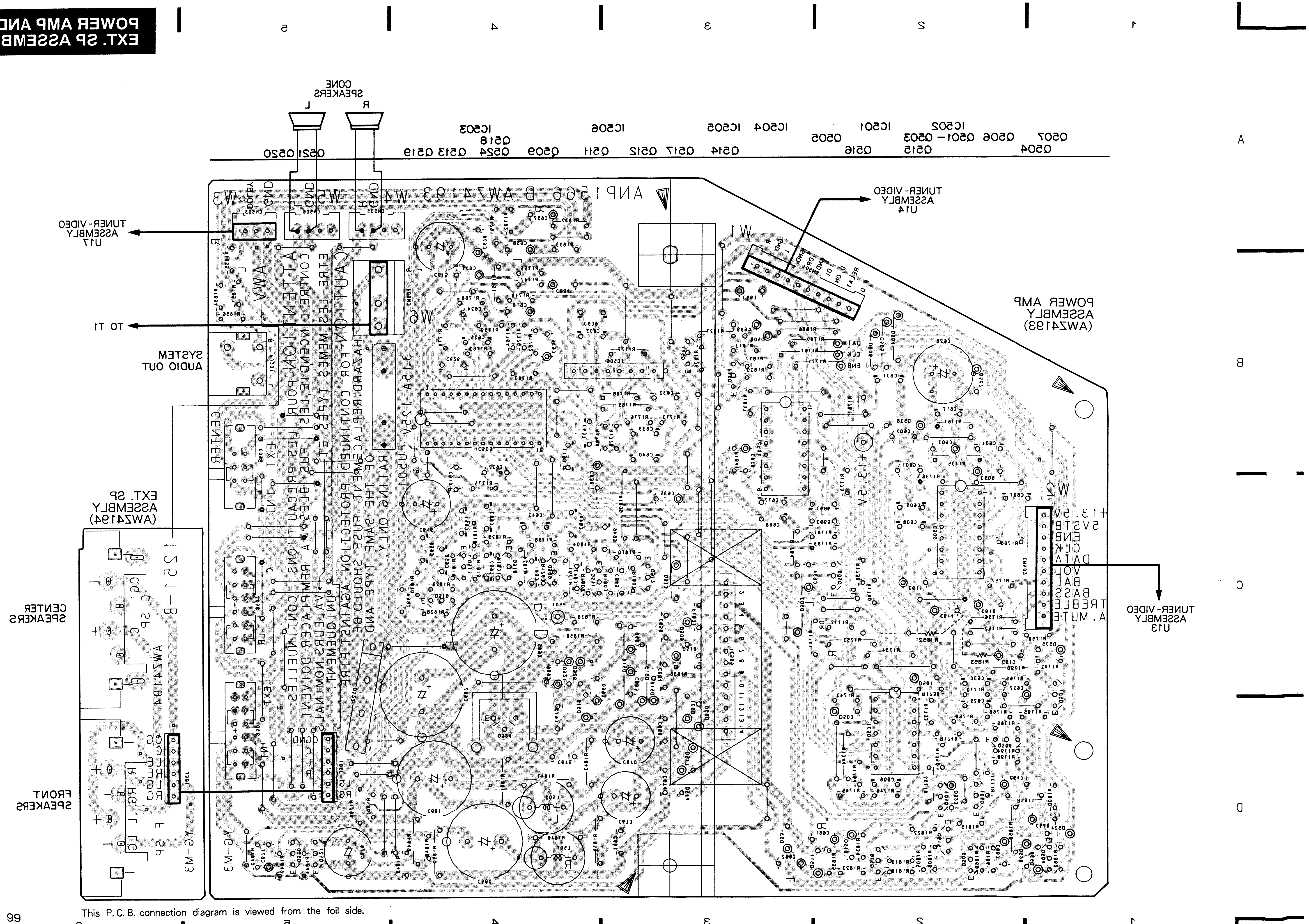
TRUTH TABLE OF IC504

PIN 6 (DSE0)	PIN 5 (DSE1)	PIN 4 (DSE2)	D.S.E. SELECTOR
L	L	L	OFF
L	L	H	STADIUM
L	H	H	S.S.

IC501	XRU4066B	D501,502,504-507	RD15ESB
IC502	TA7630P	D503,508,509,512-521, D525,528-530	1SS252
IC503	PA0049		
IC504	TC4094BP	D510,511	RD6.8ESB
IC505	LA4280-P	D522	RBV402
IC506	NJM4558LD	D523,524	RD15ESB
Q501,503	RN1203	D526,527	RD18ESB3
Q502,514,517	2SA933S	D531	RD5.1ESB2
Q504,506,507,520,521	2SC1740S	L501,502	ATH-133
Q505	RN1203	S501,502	ASH1004
Q509,511-513,518,519	2SC2458	S503	ASH1001
Q515,516	2SC3327	FU501	AEK1017
Q524	2SD1276A		


IC502
IC501
IC504
IC505
IC506
IC503
Q507
Q504
Q506
Q501 – Q503
Q515
Q516
Q505
Q514
Q517
Q512
Q511
Q509
Q518
Q524
Q513
Q519
Q521
Q520
CONE SPEAKERS
R
L
TUNER-VIDEO ASSEMBLY U14
ANP1566-B AWZ4193
W1
W2
W3
W4
W5
W6
GND
DOLBY
CN505
CN506
CN503
CN501
CN502
TUNER-VIDEO ASSEMBLY U17
TO T1
POWER AMP ASSEMBLY (AWZ4193)
SYSTEM AUDIO OUT
+13.5V
5VSTB
ENB
CLK
DATA
VOL
BAL
BASS
TREBLE
A.MUTE
TUNER-VIDEO ASSEMBLY U13
DATA
CLK
ENB
+13.5V
P501
3.15A 125V FU501
ATTENTION-POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE,LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
CAUTION-FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,REPLACEMENT FUSE SHOULD BE OF THE SAME TYPE AND RATING ONLY.
AWV
CENTER
EXT
INT
LR
EXT.SP ASSEMBLY (AWZ4194)
1251-B
AWZ4194
CENTER SPEAKERS
FRONT SPEAKERS
C SP
F SP
CG
RG
LG
J301
L502
L501
YG-M3
1
2
3
4
5
6
A
B
C
D

POWER AMP AND EXT. SP ASSEMBLIES

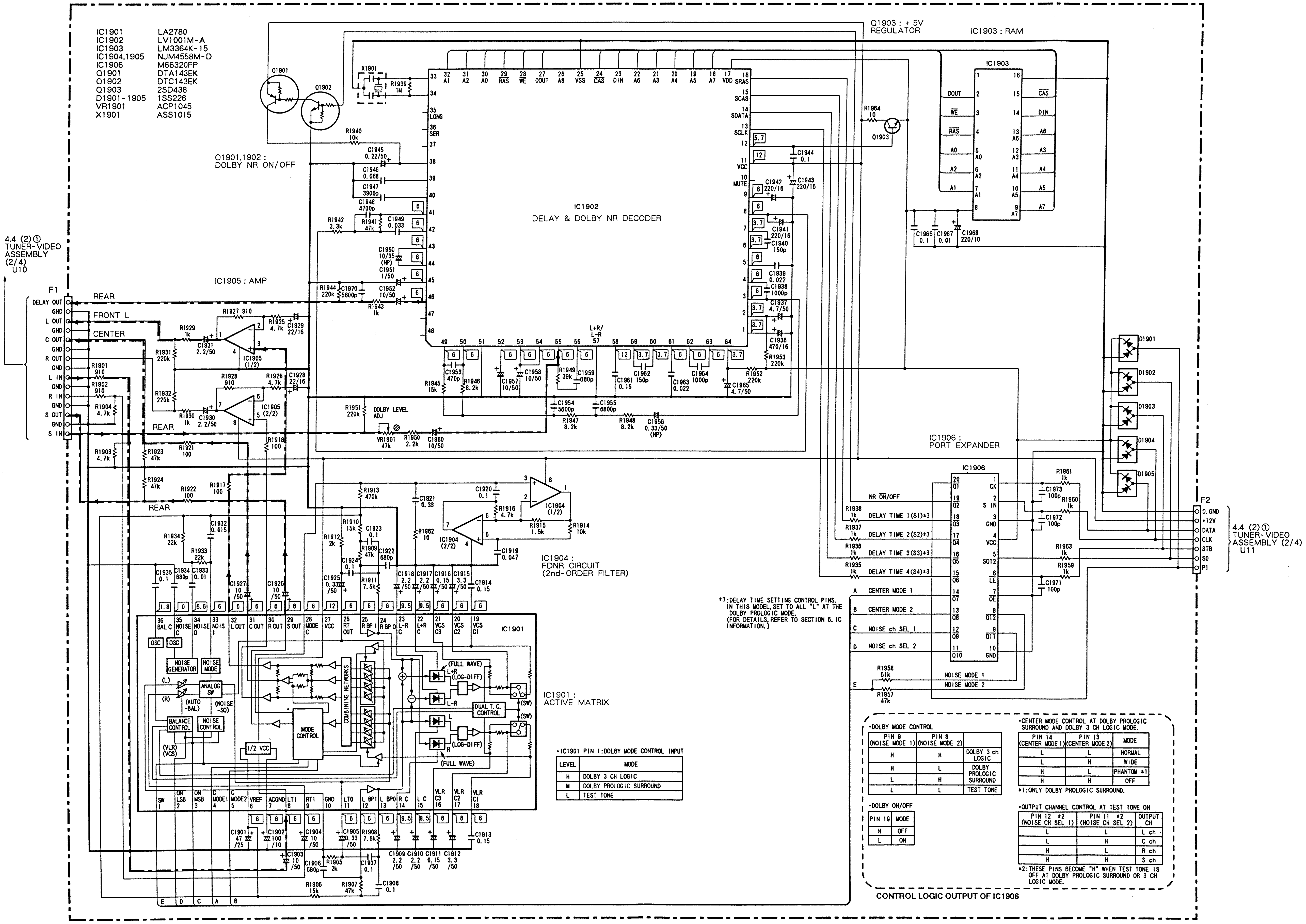


CONE SPEAKERS
L
R
IC503
IC506
IC505
IC504
IC501
IC502
Q518
Q505
Q521 Q520
Q519 Q513 Q524 Q509 Q511 Q512 Q517 Q514 Q516 Q515 Q504
Q501 – Q503 Q506 Q507
TUNER-VIDEO ASSEMBLY U17
TO T1
SYSTEM AUDIO OUT
TUNER-VIDEO ASSEMBLY U14
POWER AMP ASSEMBLY (AWZ4193)
EXT. SP ASSEMBLY (AWZ4194)
CENTER SPEAKERS
FRONT SPEAKERS
TUNER-VIDEO ASSEMBLY U13
ANP1566-B AWZ4193
W1
W2
W3
W4
W5
W6
CAUTION-FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE WITH SAME TYPE FUSE OF 3.15A 125V RATING ONLY.
ATTENTION-POUR UNE PROTECTION CONTINUELLE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DU MEME TYPE ET DE MEME CALIBRE 3.15A 125V.
FU501
+13.5V
5VSTB
ENB
CLK
DATA
VOL
BAL
BASS
TREBLE
A.MUTE
CENTER
EXT
INT
1251-B
AWZ4194
YG-M3

This P.C.B. connection diagram is viewed from the foil side.

4.9 DOL. PRO. MOD.

DOL. PRO. MOD. (AXQ1009)



IC1901	LA2780
IC1902	LV1001M-A
IC1903	LM3364K-15
IC1904,1905	NJM4558M-D
IC1906	M66320FP
Q1901	DTA143EK
Q1902	DTC143EK
Q1903	2SD438
D1901-1905	1SS226
VR1901	ACP1045
X1901	ASS1015

Q1901,1902 :
DOLBY NR ON/OFF
Q1903 : +5V
REGULATOR
IC1903 : RAM
IC1902
DELAY & DOLBY NR DECODER
IC1905 : AMP
IC1904 :
FDNR CIRCUIT
(2nd-ORDER FILTER)
IC1901 :
ACTIVE MATRIX
IC1906 :
PORT EXPANDER
4.4 (2)①
TUNER-VIDEO
ASSEMBLY
(2/4)
U10
F1
DELAY OUT
GND
L OUT
GND
C OUT
GND
R OUT
GND
L IN
GND
R IN
GND
S OUT
GND
S IN
REAR
FRONT L
CENTER
REAR
REAR
F2
D.GND
+12V
DATA
CLK
STB
SO
PI
4.4 (2)①
TUNER-VIDEO
ASSEMBLY (2/4)
U11
DOLBY LEVEL
ADJ
NR ON/OFF
DELAY TIME 1(S1)*3
DELAY TIME 2(S2)*3
DELAY TIME 3(S3)*3
DELAY TIME 4(S4)*3
CENTER MODE 1
CENTER MODE 2
NOISE ch SEL 1
NOISE ch SEL 2
NOISE MODE 1
NOISE MODE 2
NOISE GENERATOR
NOISE MODE
ANALOG SW
BALANCE CONTROL
NOISE CONTROL
COMBINING NETWORKS
MODE CONTROL
DUAL T.C. CONTROL
(FULL WAVE)
(LOG-DIFF)
1/2 VCC

*3:DELAY TIME SETTING CONTROL PINS.
IN THIS MODEL, SET TO ALL "L" AT THE DOLBY PROLOGIC MODE.
(FOR DETAILS, REFER TO SECTION 6. IC INFORMATION.)

•IC1901 PIN 1:DOLBY MODE CONTROL INPUT

LEVEL	MODE
H	DOLBY 3 CH LOGIC
M	DOLBY PROLOGIC SURROUND
L	TEST TONE

•DOLBY MODE CONTROL

PIN 9 (NOISE MODE 1)	PIN 8 (NOISE MODE 2)	
H	H	DOLBY 3 ch LOGIC
H	L	DOLBY PROLOGIC SURROUND
L	H	
L	L	TEST TONE

•DOLBY ON/OFF

PIN 19	MODE
H	OFF
L	ON

•CENTER MODE CONTROL AT DOLBY PROLOGIC SURROUND AND DOLBY 3 CH LOGIC MODE.

PIN 14 (CENTER MODE 1)	PIN 13 (CENTER MODE 2)	MODE
L	L	NORMAL
L	H	WIDE
H	L	PHANTOM *1
H	H	OFF

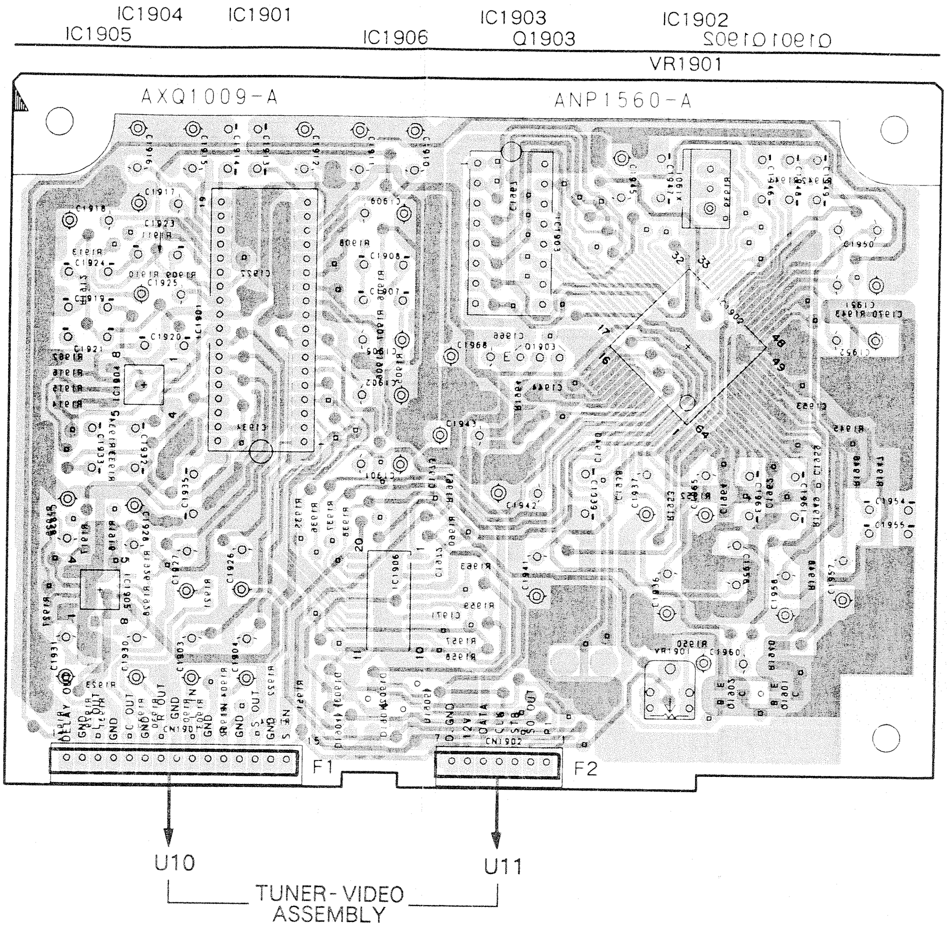
*1:ONLY DOLBY PROLOGIC SURROUND.

•OUTPUT CHANNEL CONTROL AT TEST TONE ON

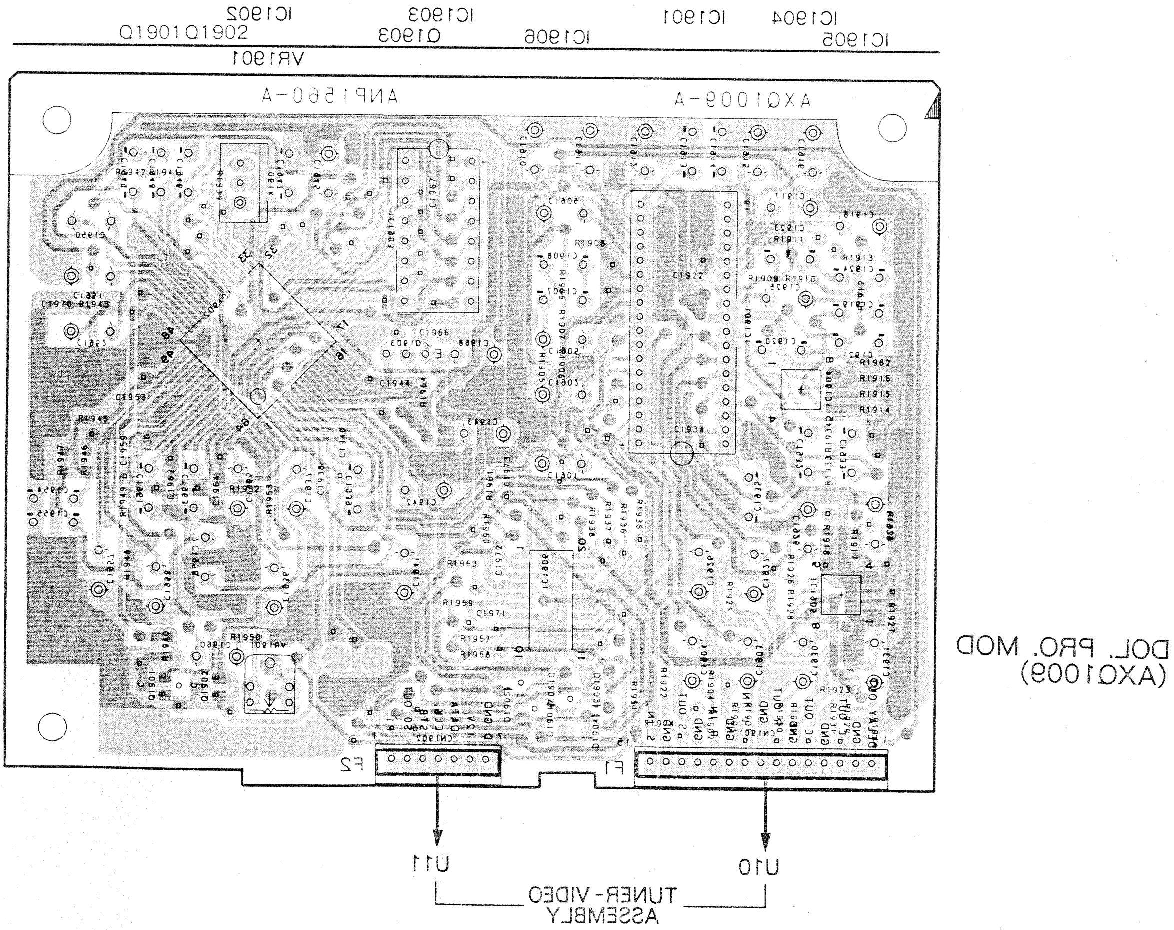
PIN 12 *2 (NOISE CH SEL 1)	PIN 11 *2 (NOISE CH SEL 2)	OUTPUT CH
L	L	L ch
L	H	C ch
H	L	R ch
H	H	S ch

*2:THESE PINS BECOME "H" WHEN TEST TONE IS OFF AT DOLBY PROLOGIC SURROUND OR 3 CH LOGIC MODE.

CONTROL LOGIC OUTPUT OF IC1906

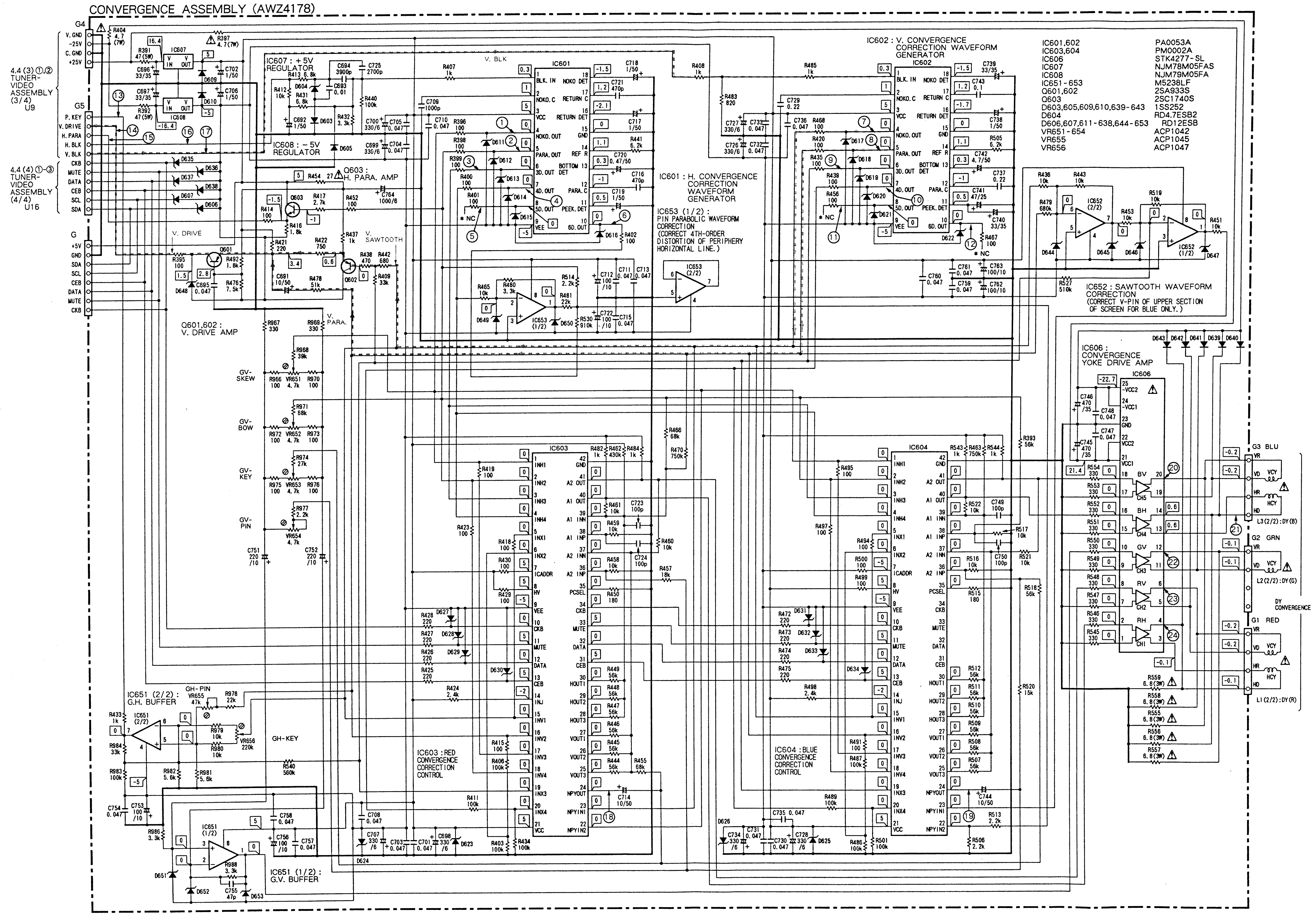

IC1904
IC1901
IC1905
IC1906
IC1903
Q1903
IC1902
Q1901Q1902
VR1901
AXQ1009-A
ANP1560-A
CN1902
F1
F2
U10
U11
TUNER-VIDEO
ASSEMBLY

DOL. PRO. MOD
(AXQ1009)



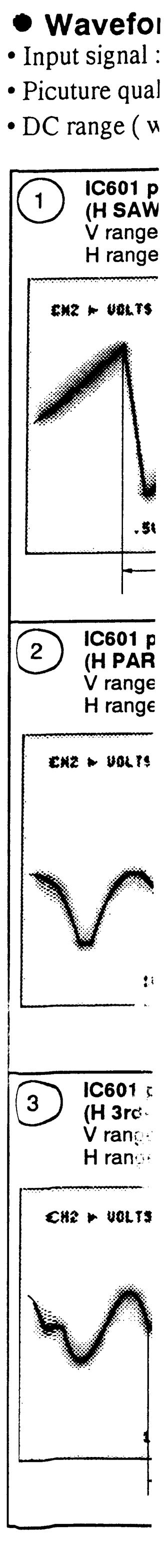
This P.C.B. connection diagram is viewed from the foil side.

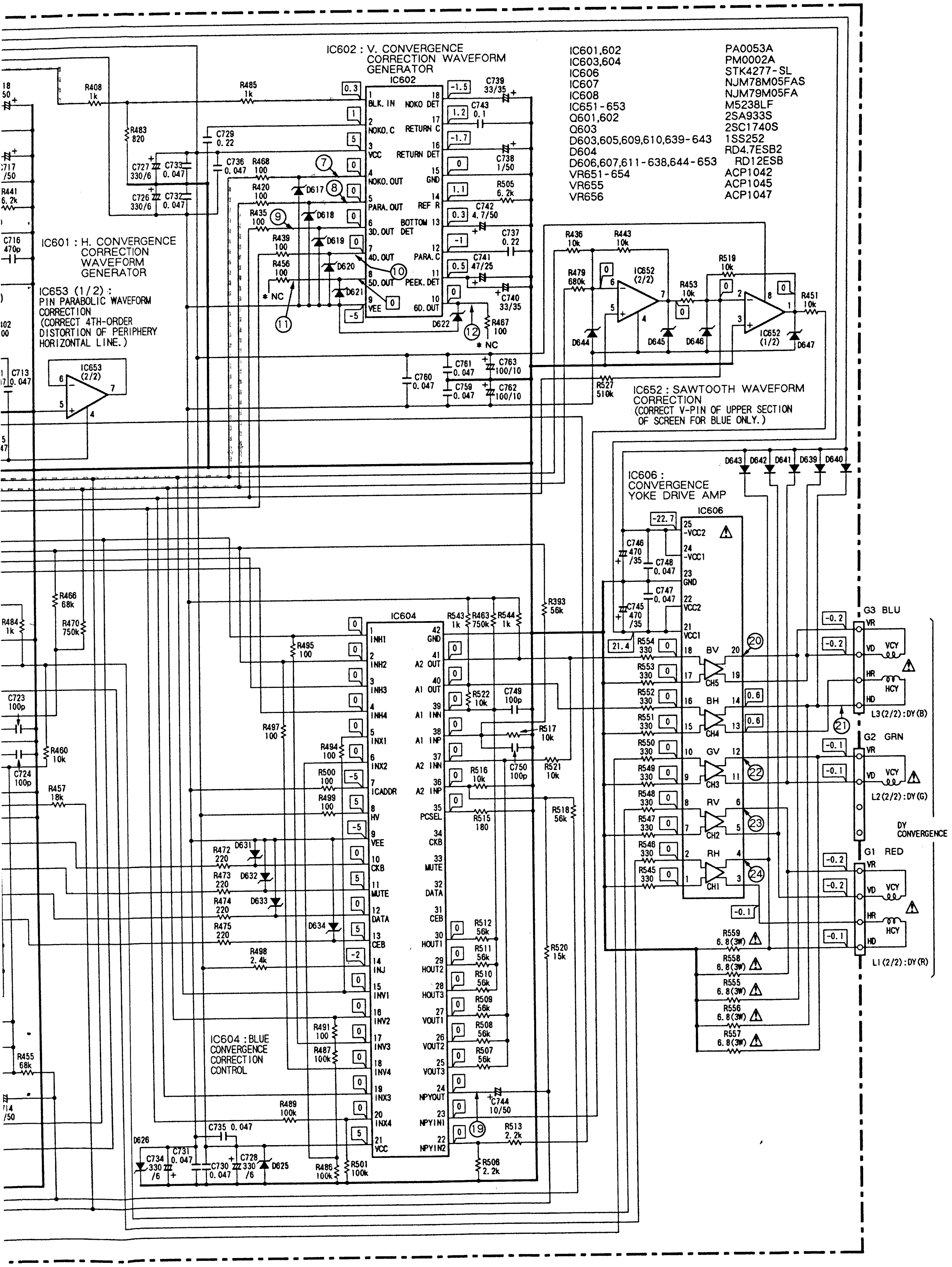
4.10 CONVERGENCE ASSEMBLY


CONVERGENCE ASSEMBLY (AWZ4178)
A
B
C
D
2
3
4
5
6
4.4 (3) ①,② TUNER-VIDEO ASSEMBLY (3/4) U9
4.4 (4) ①-③ TUNER-VIDEO ASSEMBLY (4/4) U16
G4
G5
G
IC607 : +5V REGULATOR
IC608 : -5V REGULATOR
Q603 : H. PARA. AMP
Q601,602 : V. DRIVE AMP
V. DRIVE
V. SAWTOOTH
V. PARA.
V. BLK
IC601
IC602
IC601 : H. CONVERGENCE CORRECTION WAVEFORM GENERATOR
IC602 : V. CONVERGENCE CORRECTION WAVEFORM GENERATOR
IC653 (1/2) : PIN PARABOLIC WAVEFORM CORRECTION (CORRECT 4TH-ORDER DISTORTION OF PERIPHERY HORIZONTAL LINE.)
IC652 : SAWTOOTH WAVEFORM CORRECTION (CORRECT V-PIN OF UPPER SECTION OF SCREEN FOR BLUE ONLY.)
IC601,602 PA0053A
IC603,604 PM0002A
IC606 STK4277-SL
IC607 NJM78M05FAS
IC608 NJM79M05FA
IC651-653 M5238LF
Q601,602 2SA933S
Q603 2SC1740S
D603,605,609,610,639-643 1SS252
D604 RD4.7ESB2
D606,607,611-638,644-653 RD12ESB
VR651-654 ACP1042
VR655 ACP1045
VR656 ACP1047
GV-SKEW
GV-BOW
GV-KEY
GV-PIN
IC603
IC604
IC603 : RED CONVERGENCE CORRECTION CONTROL
IC604 : BLUE CONVERGENCE CORRECTION CONTROL
IC606 : CONVERGENCE YOKE DRIVE AMP
IC651 (2/2) : G.H. BUFFER
IC651 (1/2) : G.V. BUFFER
GH-PIN
GH-KEY
G3 BLU
G2 GRN
G1 RED
DY CONVERGENCE
L3 (2/2) : DY (B)
L2 (2/2) : DY (G)
L1 (2/2) : DY (R)

□ : DC voltage (V) at color bar signal input.

* NC : Non connection

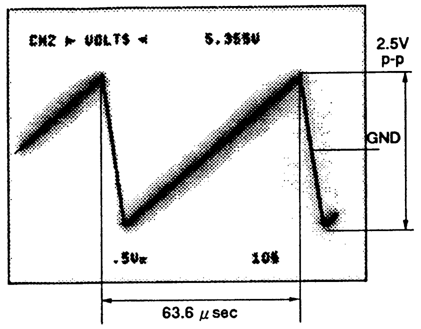



IC602 : V. CONVERGENCE CORRECTION WAVEFORM GENERATOR
IC602
BLK. IN
NOKO DET
NOKO. C
RETURN C
VCC
RETURN DET
NOKO. OUT
GND
PARA. OUT
REF R
3D. OUT
BOTTOM DET
4D. OUT
PARA. C
5D. OUT
PEEK. DET
VEE
6D. OUT
IC601,602 PA0053A
IC603,604 PM0002A
IC606 STK4277-SL
IC607 NJM78M05FAS
IC608 NJM79M05FA
IC651-653 M5238LF
Q601,602 2SA933S
Q603 2SC1740S
D603,605,609,610,639-643 1SS252
D604 RD4.7ESB2
D606,607,611-638,644-653 RD12ESB
VR651-654 ACP1042
VR655 ACP1045
VR656 ACP1047
IC601 : H. CONVERGENCE CORRECTION WAVEFORM GENERATOR
IC653 (1/2) : PIN PARABOLIC WAVEFORM CORRECTION (CORRECT 4TH-ORDER DISTORTION OF PERIPHERY HORIZONTAL LINE.)
IC653 (2/2)
IC652 (2/2)
IC652 (1/2)
IC652 : SAWTOOTH WAVEFORM CORRECTION (CORRECT V-PIN OF UPPER SECTION OF SCREEN FOR BLUE ONLY.)
IC606 : CONVERGENCE YOKE DRIVE AMP
IC606
-VCC2
-VCC1
GND
VCC2
VCC1
BV
BH
GV
GH
RV
RH
CH5
CH4
CH3
CH2
CH1
IC604
INH1
INH2
INH3
INH4
INX1
INX2
ICADDR
HV
VEE
CKB
MUTE
DATA
CEB
INJ
INV1
INV2
INV3
INV4
INX3
INX4
VCC
GND
A2 OUT
A1 OUT
A1 INN
A1 INP
A2 INN
A2 INP
PCSEL
CKB
MUTE
DATA
CEB
HOUT1
HOUT2
HOUT3
VOUT1
VOUT2
VOUT3
NPYOUT
NPYIN1
NPYIN2
IC604 : BLUE CONVERGENCE CORRECTION CONTROL
G3 BLU
G2 GRN
G1 RED
VR
VD
HR
HD
VCY
HCY
L3(2/2):DY(B)
L2(2/2):DY(G)
L1(2/2):DY(R)
DY CONVERGENCE
* NC

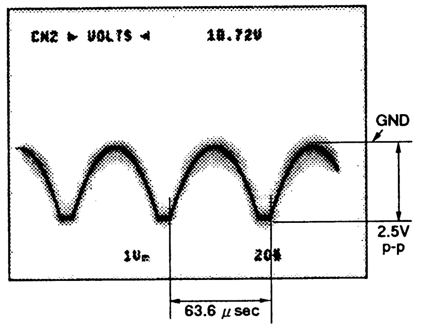
- **Waveformes at CONVERGENCE assembly**

- Input signal : Color bar
- Picuture quality : standard
- DC range (without notice)

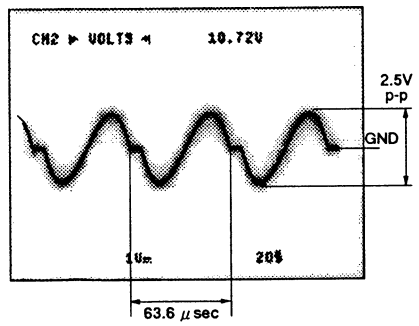
① **IC601 pin 4**
(H SAWTOOTH WAVE OUT)
V range : 0.5V/div.
H range : 10 μsec/div.



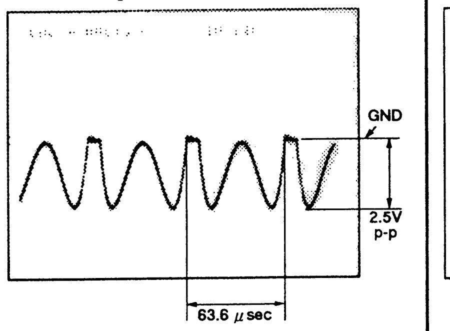
② **IC601 pin 5**
(H PARA. WAVE OUT)
V range : 1V/div.
H range : 20 μsec/div.



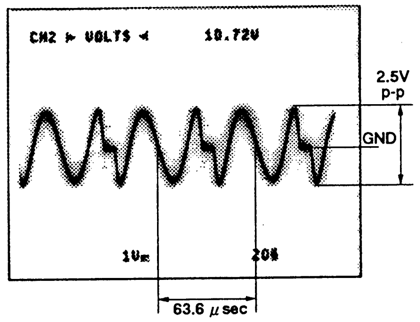
③ **IC601 pin 6**
(H 3rd-order WAVE OUT)
V range : 1V/div.
H range : 20 μsec/div.



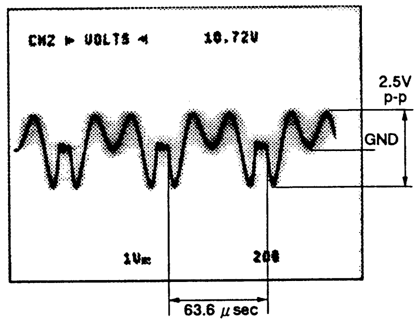
④ **IC601 pin 7**
(H 4th-order WAVE OUT)
V range : 1V/div.
H range : 20 μsec/div.



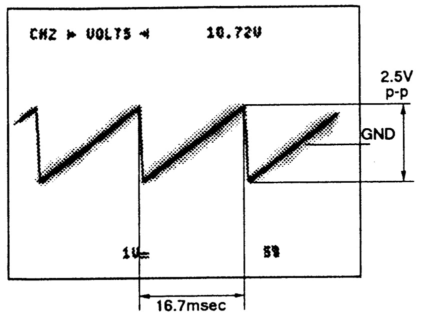
⑤ **IC601 pin 8**
(H 5th-order WAVE OUT)
V range : 1V/div.
H range : 20 μsec/div.



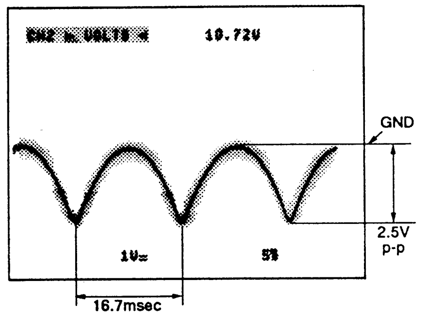
⑥ **IC601 pin 10**
(H 6th-order WAVE OUT)
V range : 1V/div.
H range : 20 μsec/div.



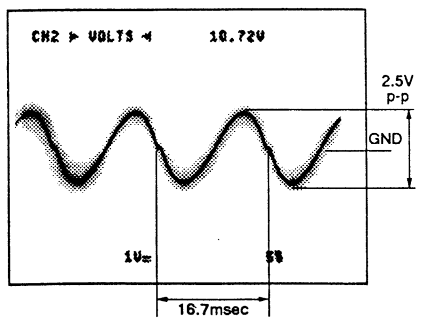
⑦ **IC602 pin 4**
(V SAWTOOTH WAVE OUT)
V range : 1V/div.
H range : 5msec/div.



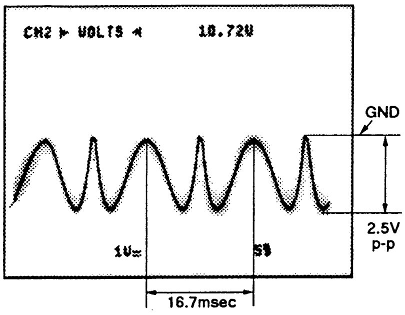
⑧ **IC602 pin 5**
(V PARA. WAVE OUT)
V range : 1V/div.
H range : 5msec/div.



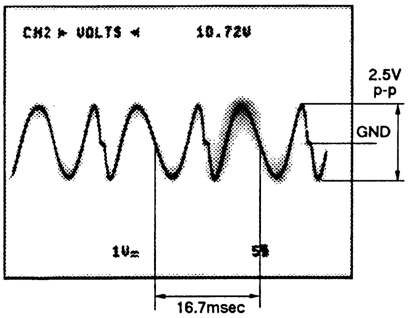
⑨ **IC602 pin 6**
(V 3rd-order wave OUT)
V range : 1V/div.
H range : 5msec/div.



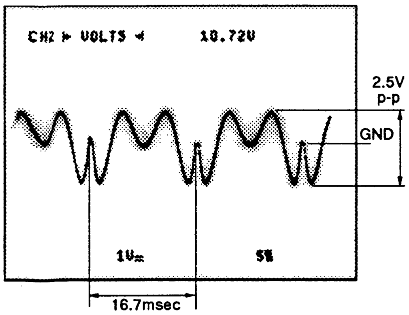
⑩ IC602 pin 7
(V 4-th order WAVE OUT)
V range : 1V/div.
H range : 5msec/div.



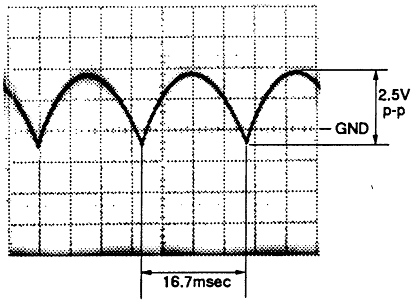
⑪ IC602 pin 8
(V 5-th order WAVE OUT)
V range : 1V/div.
H range : 5msec/div.



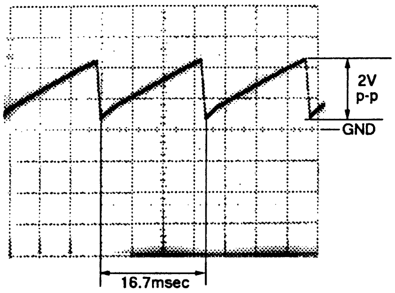
⑫ IC602 pin 10
(V 6-th order WAVE OUT)
V range : 1V/div.
H range : 5msec/div.



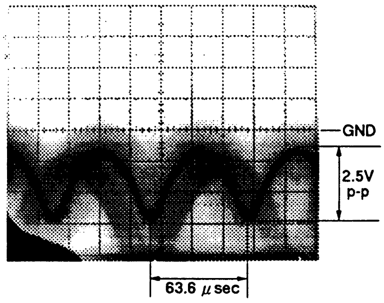
⑬ G5 pin GH–P. KEY
V range : 1V/div.
H range : 5msec/div.



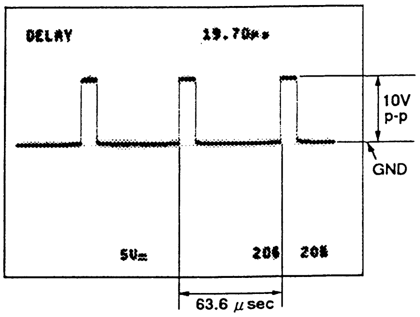
⑭ G5 pin V. DRIVE
V range : 1V/div.
H range : 5msec/div.



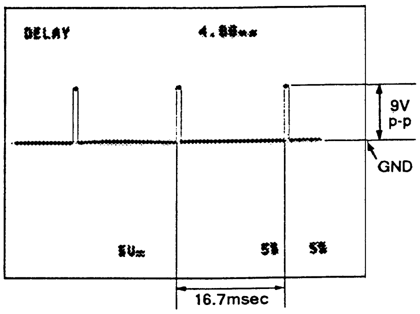
⑮ G5 pin H. PARA
V range :1V/div.
H range : 20 µsec/div.



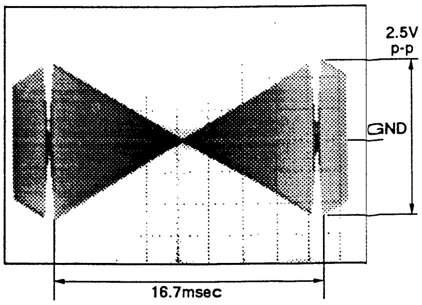
⑯ G5 pin H. BLK
V range : 5V/div.
H range : 20 µsec/div.



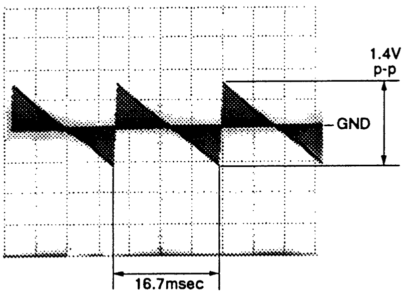
⑰ G5 pin V. BLK
V range : 5V/div.
H range : 5msec/div.



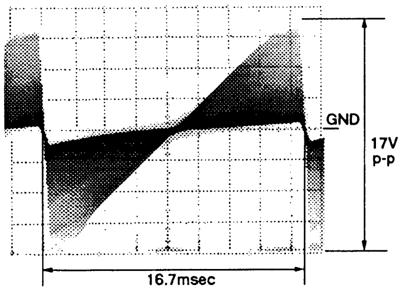
⑱ IC603 pin 24 (GV–KEY)
V range :0.5V/div.
H range : 2msec/div.



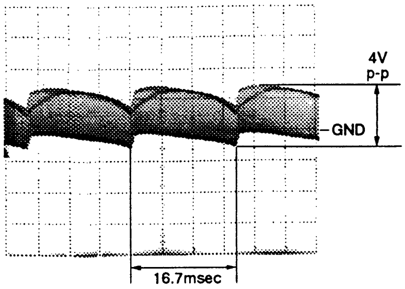
⑲ IC604 pin 24 (GV-PIN)
V range : 0.5V/div.
H range : 5msec/div.



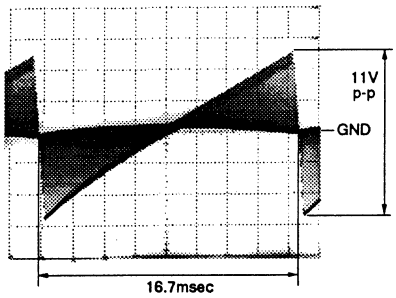
⑳ IC606 pin 20 (BV OUT)
V range : 2V/div.
H range : 2msec/div.



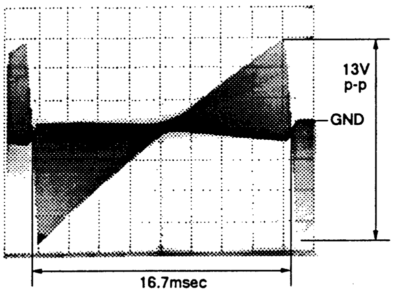
㉑ IC606 pin 14 (BH OUT)
V range : 2V/div.
H range : 5msec/div.



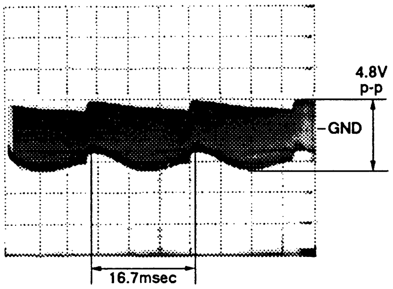
㉒ IC606 pin 12 (GV OUT)
V range : 2V/div.
H range : 2msec/div.

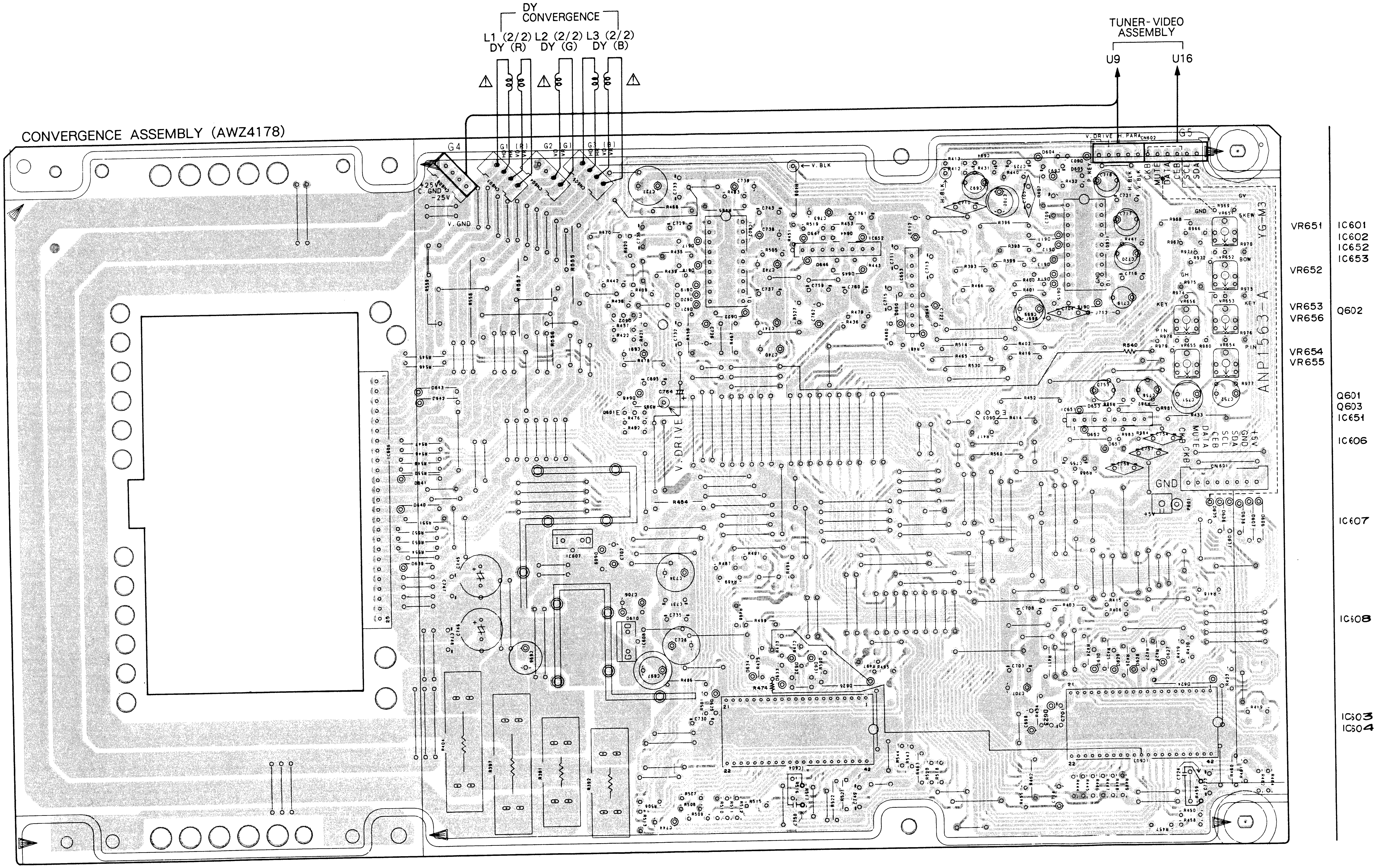


㉓ IC606 pin 6 (RV OUT)
V range : 2V/div.
H range : 2msec/div.

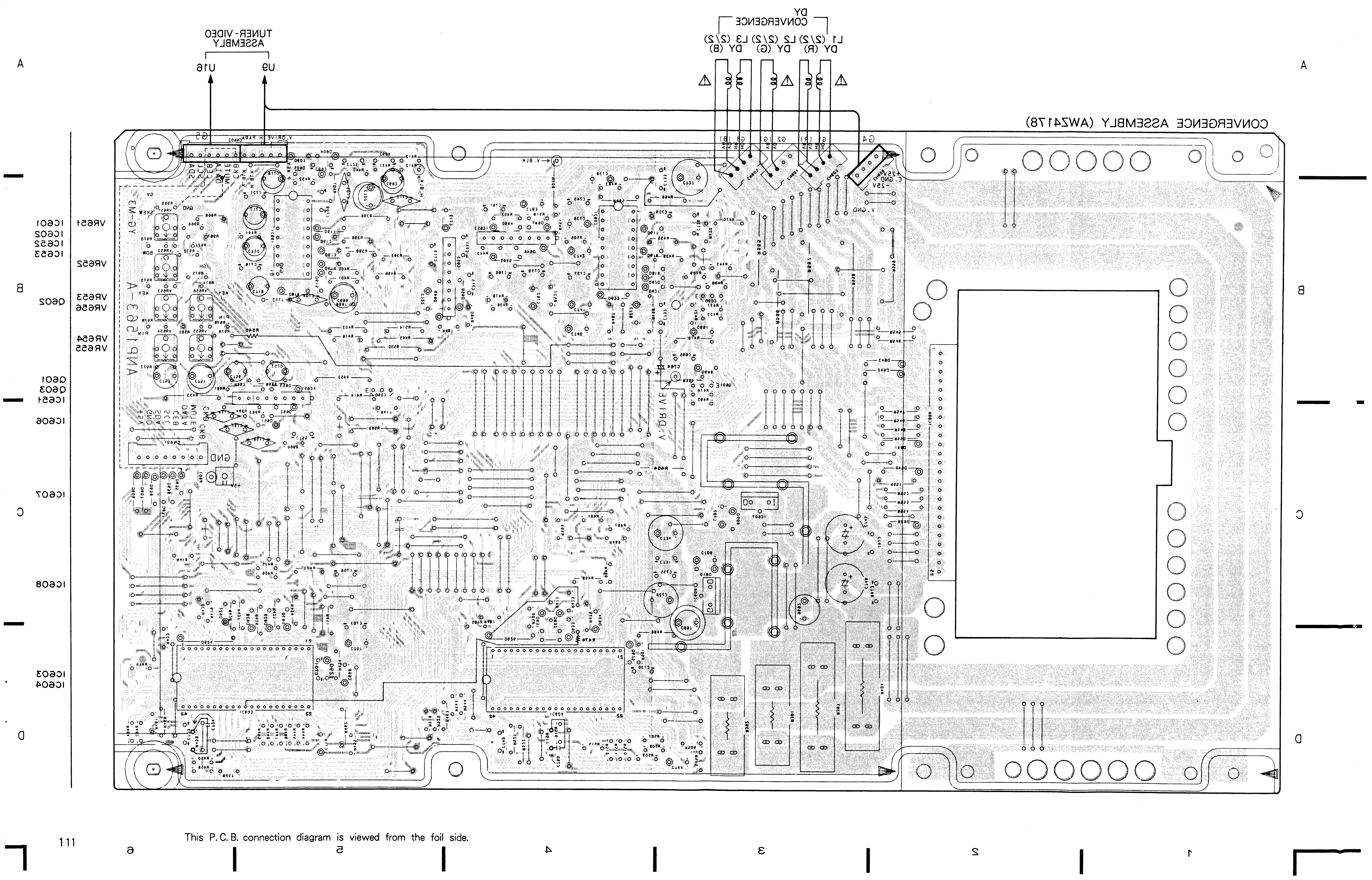


㉔ IC606 pin 4 (RH OUT)
V range : 2V/div.
H range : 5msec/div.



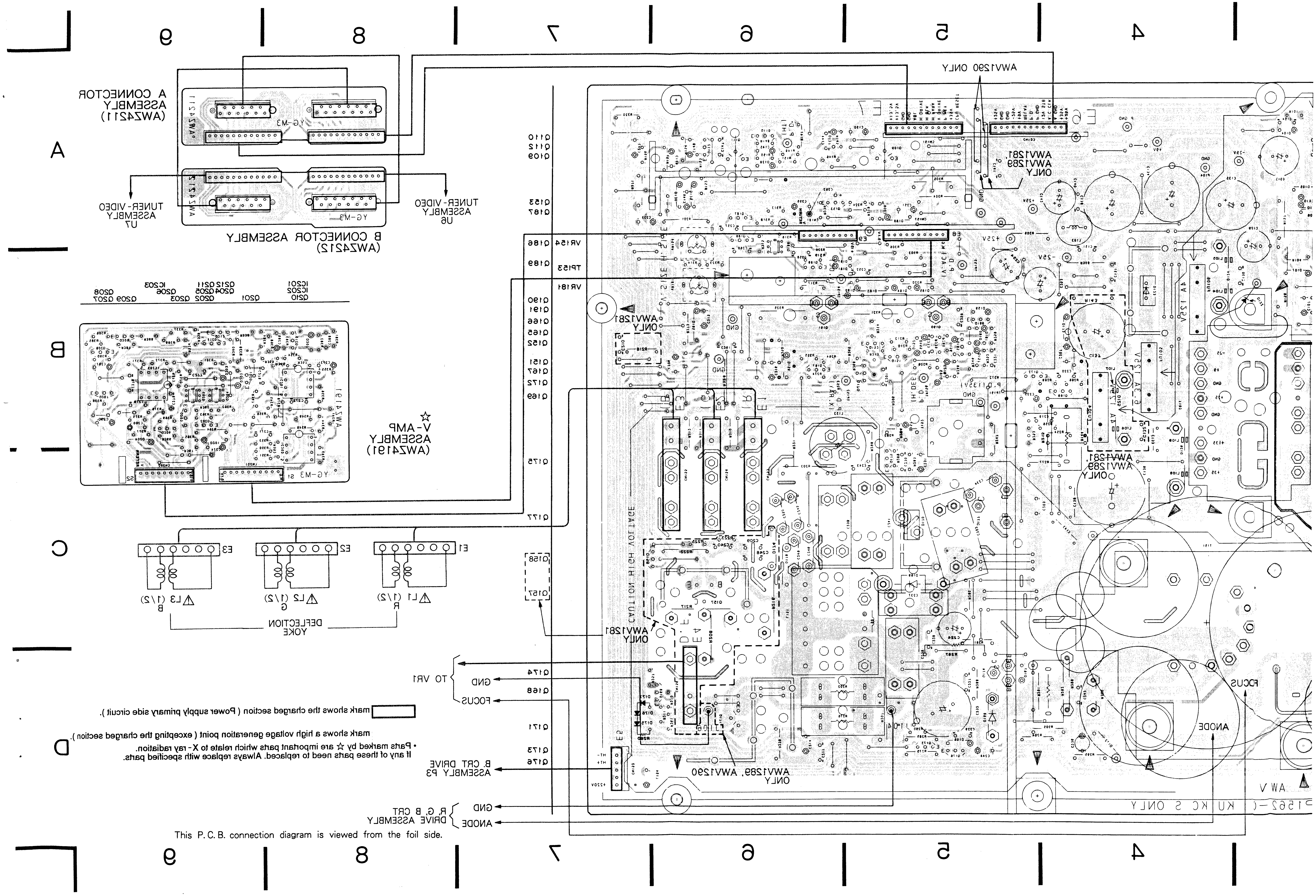

DY CONVERGENCE
L1 (2/2) DY (R)
L2 (2/2) DY (G)
L3 (2/2) DY (B)
TUNER-VIDEO ASSEMBLY
U9
U16
CONVERGENCE ASSEMBLY (AWZ4178)
G4
G5
V. DRIVE
H. PARA
CN602
CKB
MUTE
DATA
CEB
SCL
SDA
+25V
C. GND
-25V
V. GND
V. BLK
H. BLK
ANP1563-A
YG-M3
SKEW
BOW
KEY
PIN
GND
+5V
CN601
V. DRIVE
VR651
VR652
VR653
VR656
VR654
VR655
IC601
IC602
IC652
IC653
Q602
Q601
Q603
IC651
IC606
IC607
IC608
IC603
IC604

CONVERGENCE ASSEMBLY



TUNER-VIDEO ASSEMBLY
U9
U16
DY CONVERGENCE
L1 (2/2) DY (R)
L2 (2/2) DY (G)
L3 (2/2) DY (B)
CONVERGENCE ASSEMBLY (AWZ4178)
G5
G4
V.BLK
V.GND
+25V
C.GND
-25V
V.DRIVE
ANP1659-A
GND
+5V
IC601
IC602
IC652
IC653
VR651
VR652
VR653
VR656
Q602
VR654
VR655
Q601
Q603
IC651
IC606
IC607
IC608
IC603
IC604
A
B
C
D
1
2
3
4
5
6

This P.C.B. connection diagram is viewed from the foil side.


9
8
7
6
5
4
A
B
C
D
A CONNECTOR ASSEMBLY (AWZ4211)
B CONNECTOR ASSEMBLY (AWZ4212)
YG-M3
TUNER-VIDEO ASSEMBLY U7
TUNER-VIDEO ASSEMBLY U6
V-AMP ASSEMBLY (AWZ4191)
☆
E1
E2
E3
L1 (1/2) R
L2 (1/2) G
L3 (1/2) B
DEFLECTION YOKE
AWV1290 ONLY
AWV1281 AWV1289 ONLY
AWV1281 ONLY
AWV1289, AWV1290 ONLY
CAUTION HIGH VOLTAGE
Q110
Q112
Q109
Q153
Q187
Q186
VR154
Q189
TP153
Q190
VR181
Q191
Q166
Q165
Q152
Q151
Q167
Q172
Q169
Q175
Q177
Q158
Q157
Q174
Q168
Q171
Q173
Q176
TO VR1
GND
FOCUS
B. CRT DRIVE ASSEMBLY P3
R, G, B CRT DRIVE ASSEMBLY
ANODE

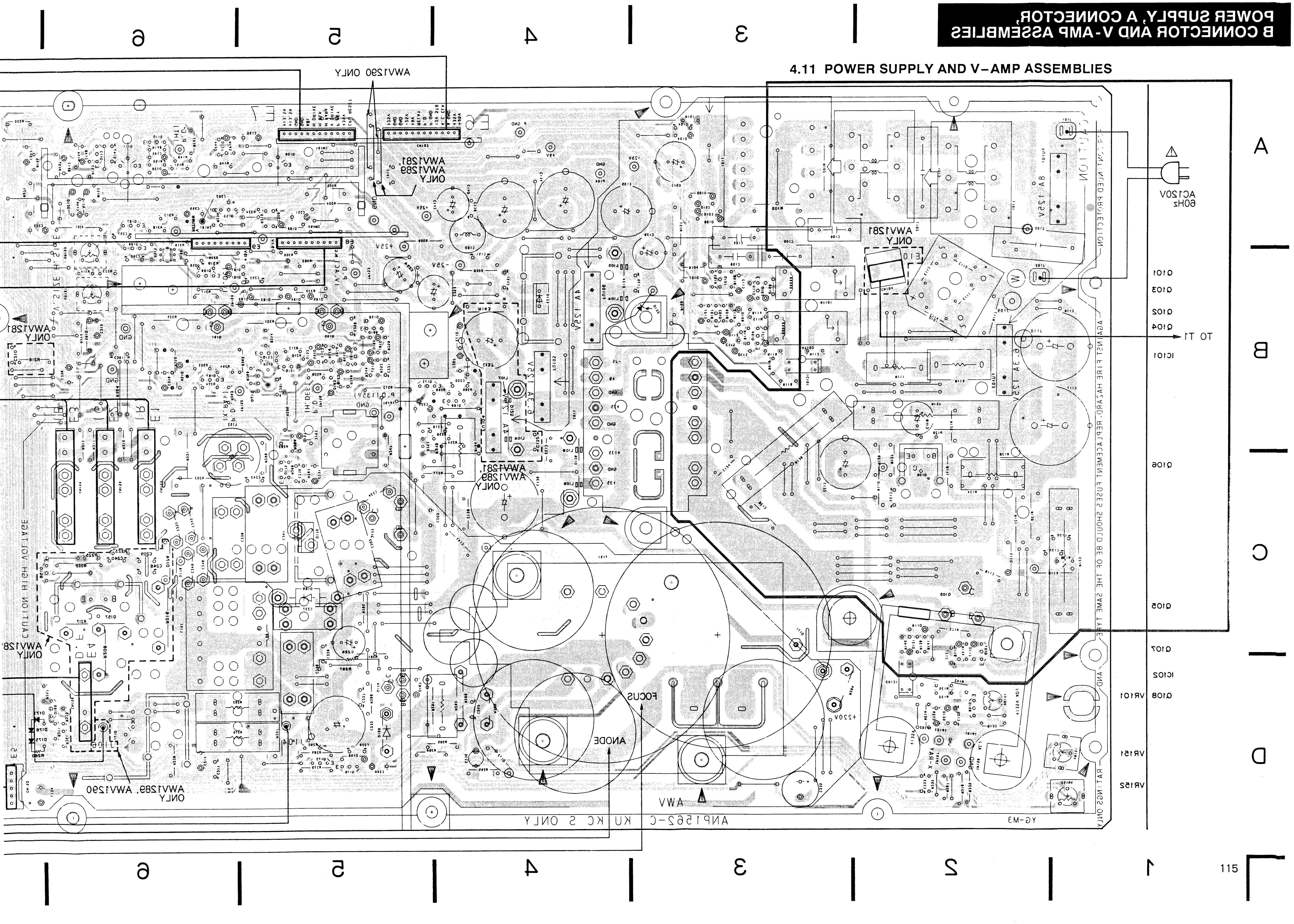
▭ mark shows the charged section (Power supply primary side circuit).

mark shows a high voltage generation point (excepting the charged section).

- Parts marked by ☆ are important parts which relate to X-ray radiation. If any of these parts need to be replaced. Always replace with specified parts.

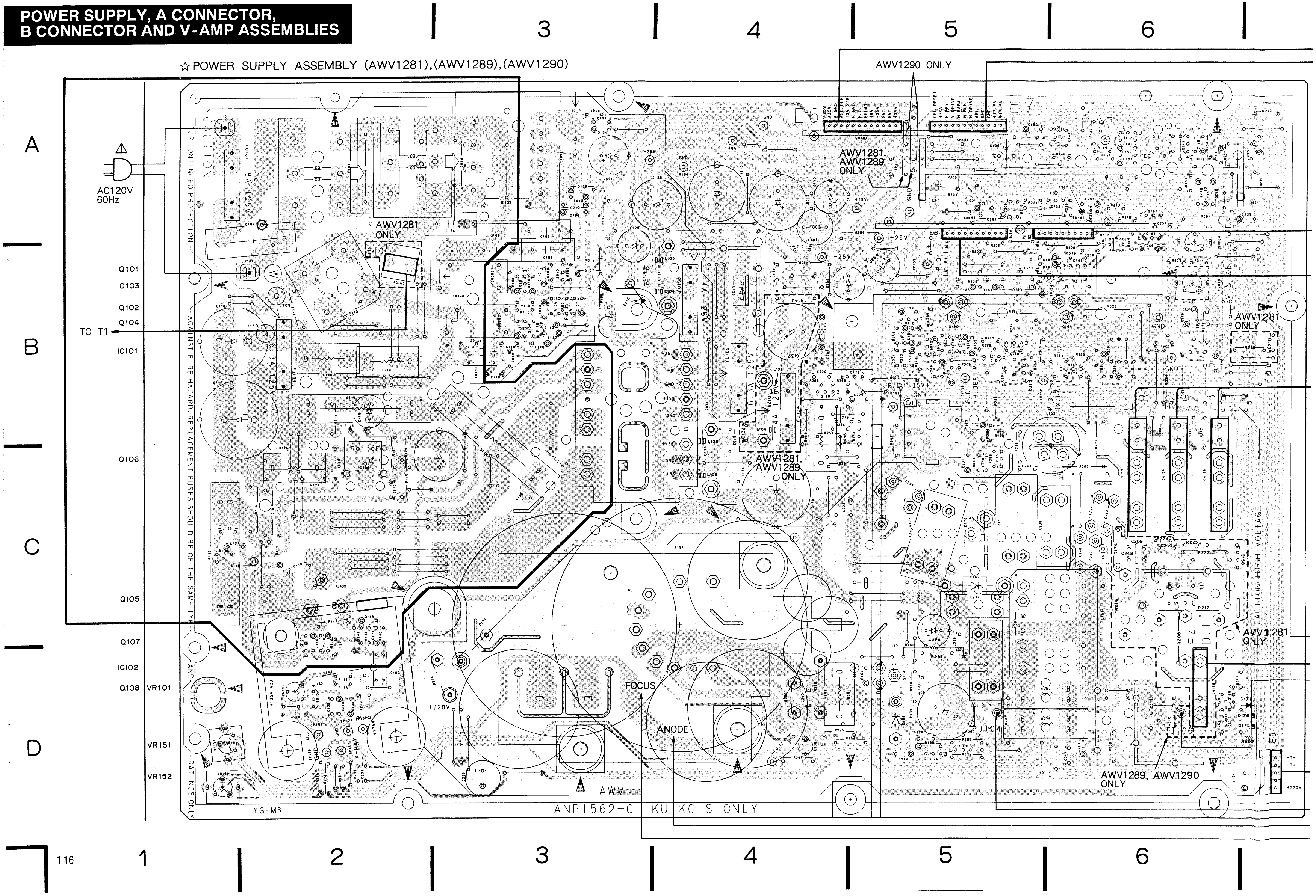
This P.C.B. connection diagram is viewed from the foil side.

4.11 POWER SUPPLY AND V-AMP ASSEMBLIES

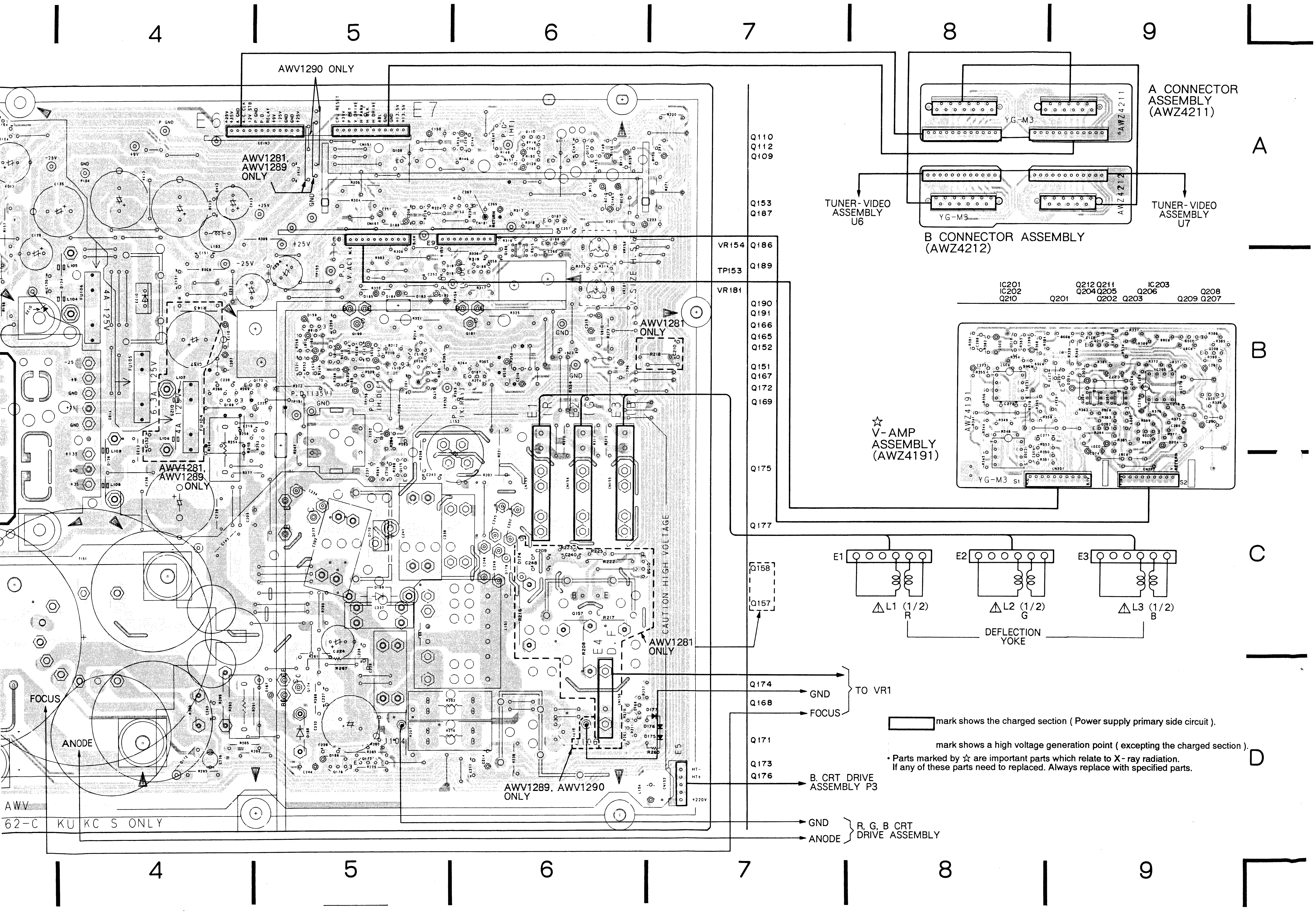

6
5
4
3
2
1
A
B
C
D
AWV1290 ONLY
AWV1281
AWV1289
ONLY
AWV1281
ONLY
AC120V
60Hz
TO T1
Q101
Q103
Q102
Q104
IC101
Q106
Q105
Q107
IC102
Q108
VR101
VR151
VR152
+25V
-25V
GND
+220V
FOCUS
ANODE
AWV
ANP1562-C KU KC S ONLY
YG-M3
AWV1289, AWV1290
ONLY
CAUTION HIGH VOLTAGE

POWER SUPPLY, A CONNECTOR, B CONNECTOR AND V-AMP ASSEMBLIES

☆POWER SUPPLY ASSEMBLY (AWV1281),(AWV1289),(AWV1290)



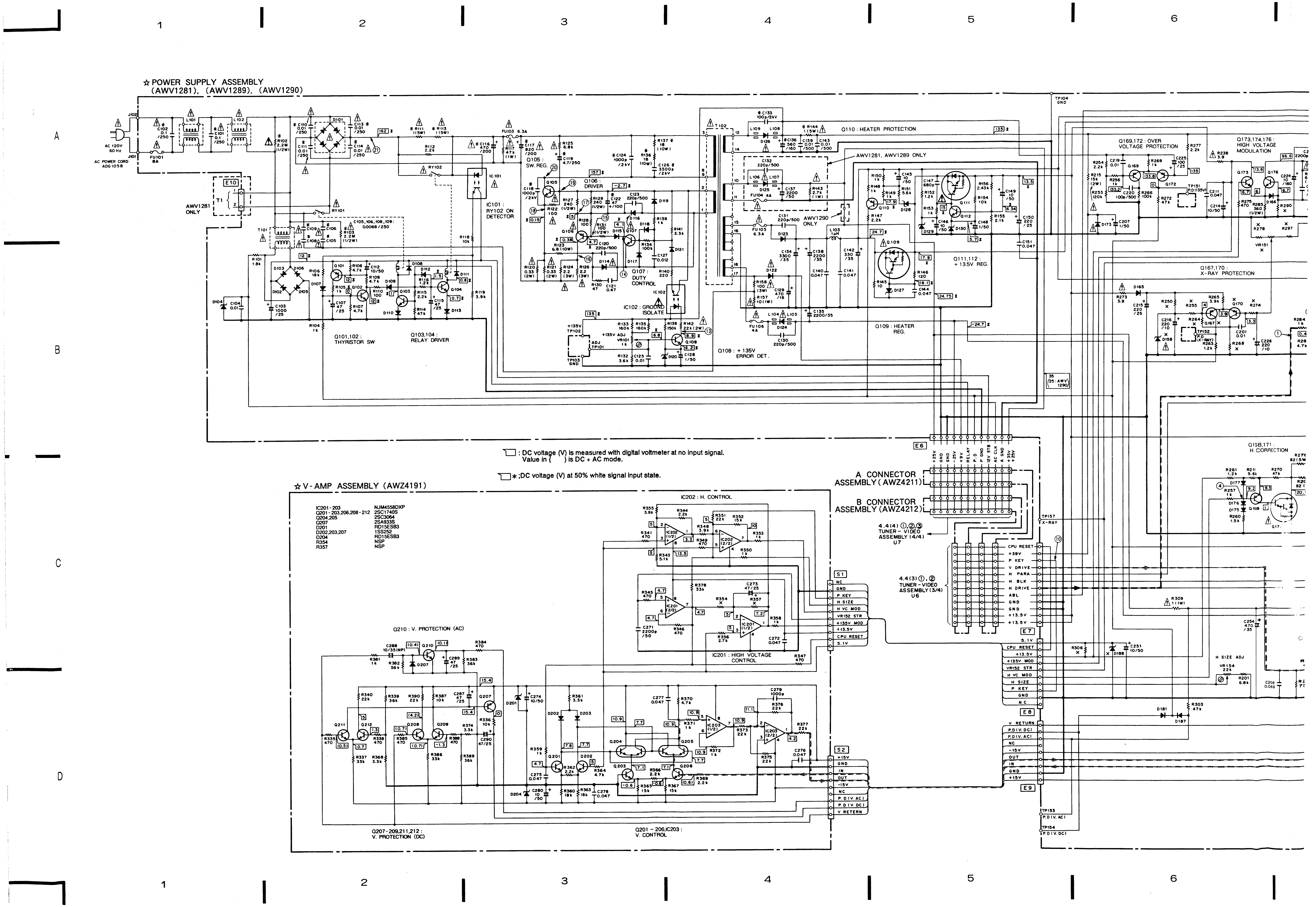
3
4
5
6
A
B
C
D
1
2
AWV1290 ONLY
AC120V
60Hz
TO T1
Q101
Q103
Q102
Q104
IC101
Q106
Q105
Q107
IC102
Q108
VR101
VR151
VR152
AWV1281 ONLY
AWV1281, AWV1289 ONLY
8A 125V
6.3A 125V
4A 125V
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY
CAUTION HIGH VOLTAGE
FOCUS
ANODE
+220V
GND
+25V
-25V
AWV1281 ONLY
AWV1289, AWV1290 ONLY
HT-
HT+
YG-M3
AWV
ANP1562-C KU KC S ONLY


4
5
6
7
8
9
A
B
C
D
AWV1290 ONLY
AWV1281, AWV1289 ONLY
E6
E7
E8
E9
GND
+25V
-25V
4A 125V
FU106
FU105
6.3A 125V
FU104
4A 125V
AWV1281, AWV1289 ONLY
AWV1281 ONLY
P.D. (V.AC)
P.D. (H.DEF)
P.D. (X.RAY)
P.D. (135V)
V.SIZE H.SIZE
E1
E2
E3
E4
E5
CAUTION HIGH VOLTAGE
AWV1281 ONLY
AWV1289, AWV1290 ONLY
FOCUS
ANODE
AWV
62-C KU KC S ONLY
Q110
Q112
Q109
Q153
Q187
VR154
Q186
TP153
Q189
VR181
Q190
Q191
Q166
Q165
Q152
Q151
Q167
Q172
Q169
Q175
Q177
Q158
Q157
Q174
Q168
Q171
Q173
Q176
A CONNECTOR ASSEMBLY (AWZ4211)
AWZ4211
YG-M3
B CONNECTOR ASSEMBLY (AWZ4212)
AWZ4212
TUNER-VIDEO ASSEMBLY U6
TUNER-VIDEO ASSEMBLY U7
IC201
IC202
Q210
Q201
Q212
Q204
Q211
Q205
Q202
Q203
IC203
Q206
Q208
Q209
Q207
☆ V-AMP ASSEMBLY (AWZ4191)
AWZ4191
YG-M3
S1
S2
CN201
CN202
E1
E2
E3
⚠L1 (1/2) R
⚠L2 (1/2) G
⚠L3 (1/2) B
DEFLECTION YOKE
GND
FOCUS
TO VR1
B. CRT DRIVE ASSEMBLY P3
GND
ANODE
R, G, B CRT DRIVE ASSEMBLY

▭ mark shows the charged section (Power supply primary side circuit).

mark shows a high voltage generation point (excepting the charged section).

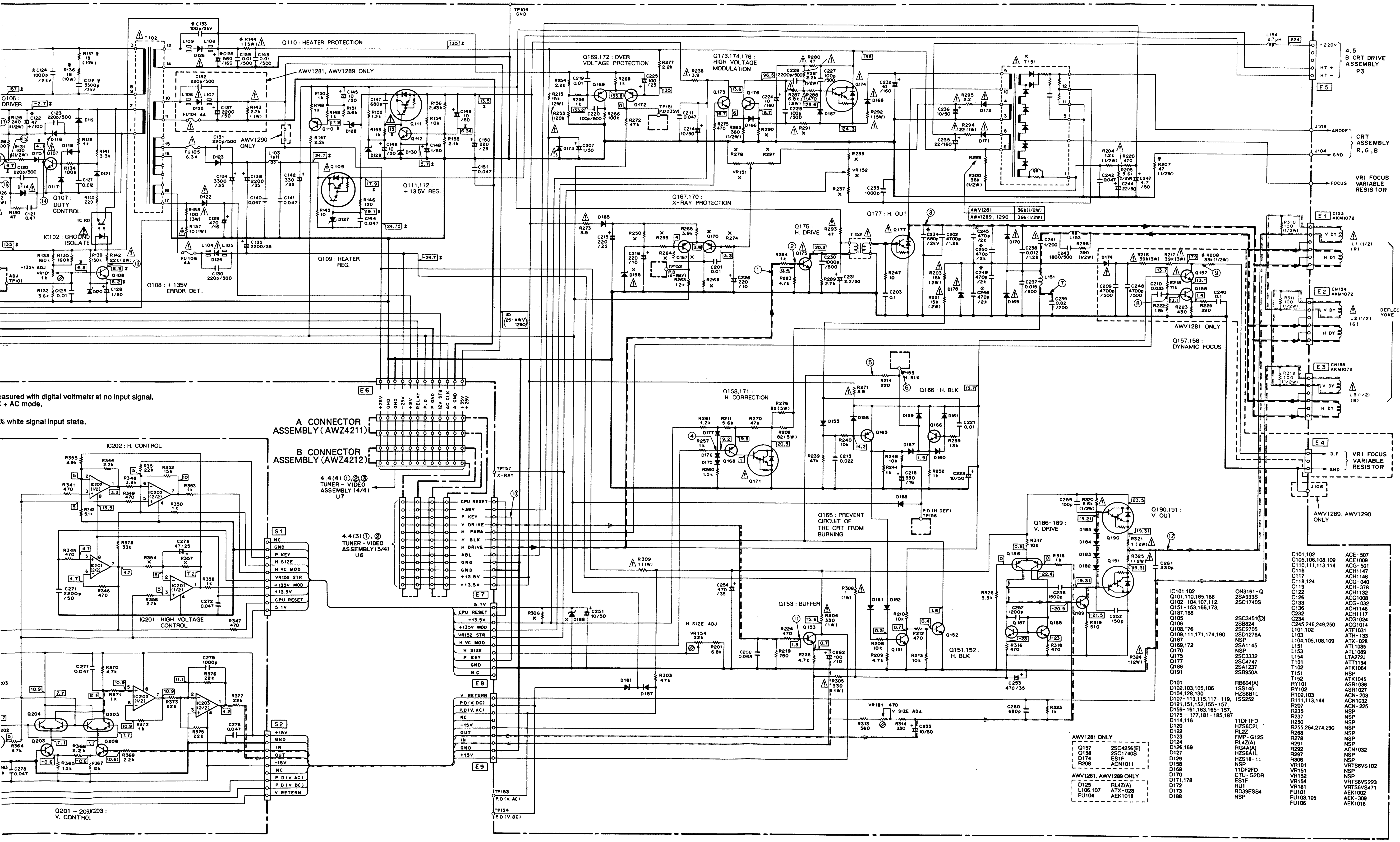
- Parts marked by ☆ are important parts which relate to X-ray radiation. If any of these parts need to replaced. Always replace with specified parts.


☆POWER SUPPLY ASSEMBLY
(AWV1281), (AWV1289), (AWV1290)
AC 120V 60Hz
AC POWER CORD ADG1058
FU101 8A
AWV1281 ONLY
IC101 : RY102 ON DETECTOR
Q101,102 : THYRISTOR SW
Q103,104 : RELAY DRIVER
Q105 : SW. REG.
Q106 : DRIVER
Q107 : DUTY CONTROL
IC102 : GROUND ISOLATE
Q108 : +135V ERROR DET.
Q110 : HEATER PROTECTION
AWV1281, AWV1289 ONLY
AWV1290 ONLY
Q109 : HEATER REG.
Q111,112 : +13.5V REG.
Q169,172 : OVER VOLTAGE PROTECTION
Q173,174,176 : HIGH VOLTAGE MODULATION
Q167,170 : X-RAY PROTECTION
Q168,171 : H. CORRECTION
TP104 GND
TP157 X-RAY
A CONNECTOR ASSEMBLY (AWZ4211)
B CONNECTOR ASSEMBLY (AWZ4212)
4.4(4) ①,②,③ TUNER - VIDEO ASSEMBLY (4/4) U7
4.4(3) ①,② TUNER - VIDEO ASSEMBLY (3/4) U6
H SIZE ADJ
☆V-AMP ASSEMBLY (AWZ4191)
IC201-203 NJM4558DXP
Q201-203,206,208-212 2SC1740S
Q204,205 2SC3064
Q207 2SA933S
D201 RD15ESB3
D202,203,207 1SS252
D204 RD15ESB3
R354 NSP
R357 NSP
IC202 : H. CONTROL
IC201 : HIGH VOLTAGE CONTROL
Q210 : V. PROTECTION (AC)
Q207-209,211,212 : V. PROTECTION (DC)
Q201-206,IC203 : V. CONTROL
1
2
3
4
5
6
A
B
C
D

□ : DC voltage (V) is measured with digital voltmeter at no input signal.
Value in ( ) is DC + AC mode.

□ * ;DC voltage (V) at 50% white signal input state.

POWER SUPPLY, A CONNECTOR, B CONNECTOR AND V-AMP ASSEMBLIES


Q110 : HEATER PROTECTION
AWV1281, AWV1289 ONLY
AWV1290 ONLY
Q106 : DRIVER
Q107 : DUTY CONTROL
IC102 : GROUND ISOLATE
Q108 : +135V ERROR DET.
Q109 : HEATER REG.
Q111,112 : +13.5V REG.
Q169,172 : OVER VOLTAGE PROTECTION
Q173,174,176 : HIGH VOLTAGE MODULATION
Q167,170 : X-RAY PROTECTION
Q175 : H. DRIVE
Q177 : H. OUT
Q157,158 : DYNAMIC FOCUS
AWV1281 ONLY
T151
4.5 B CRT DRIVE ASSEMBLY P3
+220V
HT +
HT −
ANODE
GND
FOCUS
CRT ASSEMBLY R,G,B
VR1 FOCUS VARIABLE RESISTOR
DEFLECTION YOKE
L1 (1/2) (R)
L2 (1/2) (G)
L3 (1/2) (B)
V DY
H DY
CN153 AKM1072
CN154 AKM1072
CN155 AKM1072
E1
E2
E3
E4
E5
J103
J104
J106
AWV1289, AWV1290 ONLY
Q158,171 : H. CORRECTION
Q166 : H. BLK
Q165 : PREVENT CIRCUIT OF THE CRT FROM BURNING
Q153 : BUFFER
Q151,152 : H. BLK
Q186-189 : V. DRIVE
Q190,191 : V. OUT
H SIZE ADJ
V SIZE ADJ.
TP104 GND
TP151 P.D (135V)
TP152 P.D (X-RAY)
TP155 H. BLK
TP156 P.D (H. DEF)
TP157 X-RAY
TP153 P.D (V. AC)
TP154 P.D (V. DC)
A CONNECTOR ASSEMBLY (AWZ4211)
B CONNECTOR ASSEMBLY (AWZ4212)
E6
E7
E8
E9
4.4(4) ①,②,③ TUNER - VIDEO ASSEMBLY (4/4) U7
4.4(3) ①,② TUNER - VIDEO ASSEMBLY (3/4) U6
CPU RESET
+39V
P KEY
V DRIVE
H PARA
H BLK
H DRIVE
ABL
GND
+13.5V
5.1V
+135V MOD
VR152 STR
H VC MOD
H SIZE
V RETURN
P.D (V. DC)
P.D (V. AC)
NC
−15V
OUT
IN
+15V
IC202 : H. CONTROL
IC201 : HIGH VOLTAGE CONTROL
Q201 - 206, IC203 : V. CONTROL
S1
S2

easured with digital voltmeter at no input signal.
C + AC mode.

% white signal input state.

IC101,102	ON3161-Q
Q101,110,165,168	2SA933S
Q102-104,107,112, Q151-153,166,173, Q187,188	2SC1740S
Q105	2SC3451(D)
Q106	2SB824
Q108,176	2SC2705
Q109,111,171,174,190	2SD1276A
Q167	NSP
Q169,172	2SA1145
Q170	NSP
Q175	2SC3332
Q177	2SC4747
Q186	2SA1237
Q191	2SB950A
D101	RB604(A)
D102,103,105,106	1SS145
D104,128,130	HZS6B1L
D107-113,115,117-119, D121,151,152,155-157, D159-161,163,165-157, D175 − 177,181-185,187	1SS252
D114,116	11DF1FD
D120	HZS6C2L
D122	RL2Z
D123	FMP-G12S
D124	RL4Z(A)
D126,169	RG4A(A)
D127	HZS6A1L
D129	HZS18-1L
D158	NSP
D168	11DF2FD
D170	CTU-G2DR
D171,178	ES1F
D172	RU1
D173	RD39ESB4
D188	NSP

C101,102	ACE-507
C105,106,108,109	ACE1009
C110,111,113,114	ACG-501
C116	ACH1147
C117	ACH1148
C118,124	ACG-040
C119	ACH-378
C122	ACH1132
C126	ACG1008
C133	ACG-032
C136	ACH1146
C232	ACH1117
C234	ACG1024
C245,246,249,250	ACG1014
L101,102	ATF1031
L103	ATH-133
L104,105,108,109	ATX-028
L151	ATL1085
L153	ATL1089
L154	LTA272J
T101	ATT1194
T102	ATK1064
T151	NSP
T152	ATK1045
RY101	ASR1036
RY102	ASR1027
R102,103	ACN-208
R111,113,144	ACN1032
R207	ACN-225
R235	NSP
R237	NSP
R250	NSP
R255,264,274,290	NSP
R268	NSP
R278	NSP
H291	NSP
R292	ACN1032
R297	NSP
R306	NSP
VR101	VRTS6VS102
VR151	NSP
VR152	NSP
VR154	VRTS6VS223
VR181	VRTS6VS471
FU101	AEK1002
FU103,105	AEK-309
FU106	AEK1018

AWV1281 ONLY

Q157	2SC4256(E)
Q158	2SC1740S
D174	ES1F
R208	ACN1011

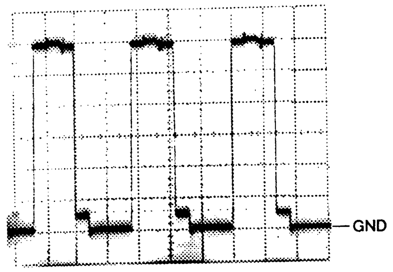
AWV1281, AWV1289 ONLY

D125	RL4Z(A)
L106,107	ATX-028
FU104	AEK1018

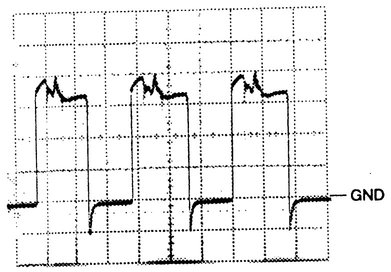
● Waveformes at Power Supply Assembly (Deflection circuit)

- Input signal : Color bar
- Picture quality : standard
- Screen size : standard
- Others : standard

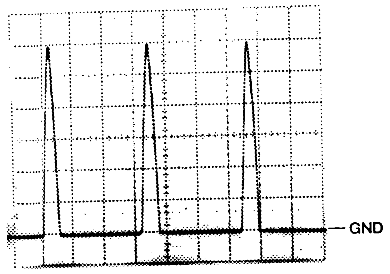
① **E7 pin H. DRIVE**
V range : 0.5V/div.
H range : 20 μsec/div.



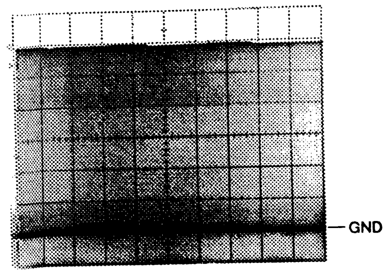
② **Q175 Base**
V range : 0.2V/div.
H range : 20 μsec/div.



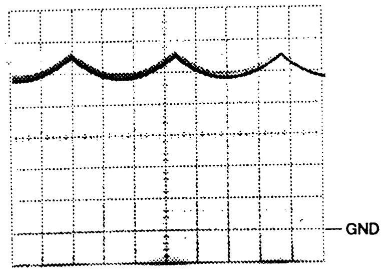
③-1 **Q177 Collector (H. RATE)**
V range : 200V/div.
H range : 20 μsec/div.



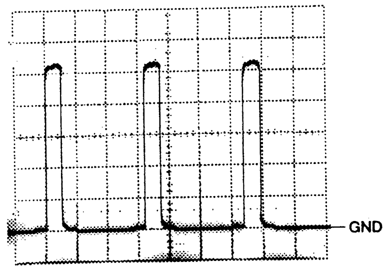
③-2 **Q177 Collector (V. RATE)**
V range : 200V/div.
H range : 5msec/div.



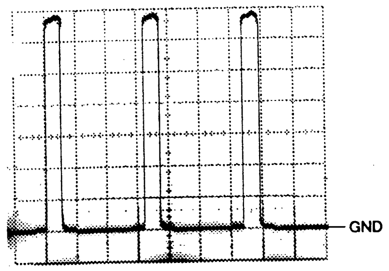
④ **Q168 Base**
V range : 2V/div.
H range : 5msec/div.



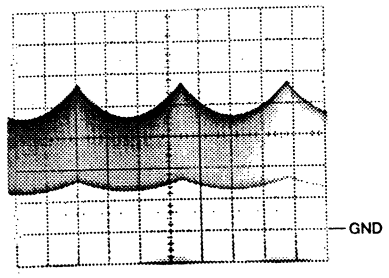
⑤ **Q152 Collector**
V range : 2V/div.
H range : 20 μsec/div.



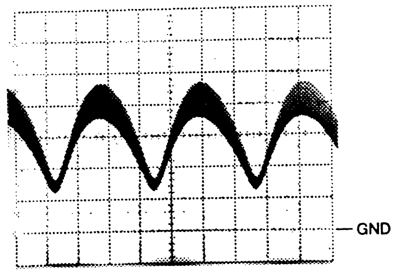
⑥ **P155 (TP–H. BLK)**
V range : 2V/div.
H range : 20 μsec/div.



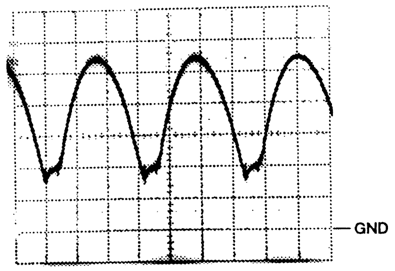
⑦-1 **Between C239 and L151 (V RATE)**
V range : 10V/div.
H range : 5msec/div.



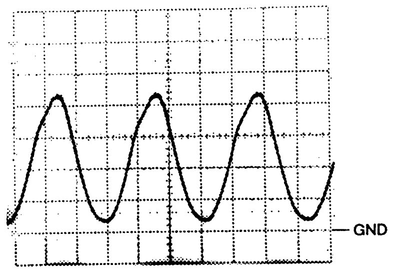
⑦-2 **Between C239 and L151 (H RATE)**
V range : 10V/div.
H range : 20 μsec/div.



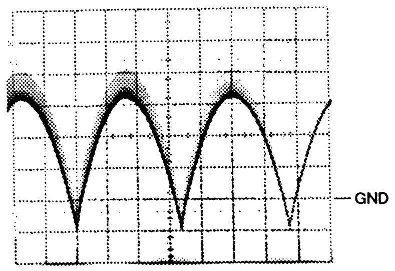
⑧ **Q158 Base**
V range : 0.5V/div.
H range : 20 μsec/div.



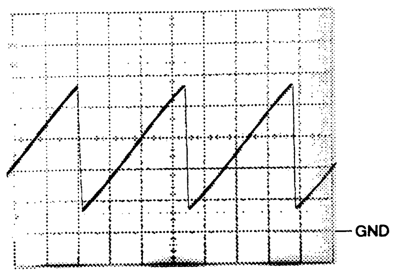
⑨ **Q157 Collector**
V range : 100V/div.
H range : 20 μsec/div.



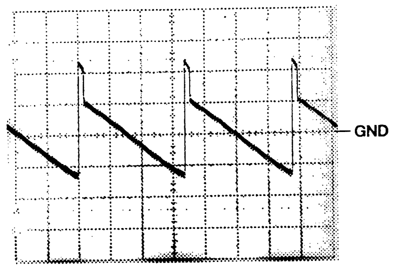
⑩ **E7 pin P KEY**
V range : 0.5V/div.
H range : 5msec/div.



⑪ **Q153 Base**
V range : 0.5V/div.
H range : 5msec/div.



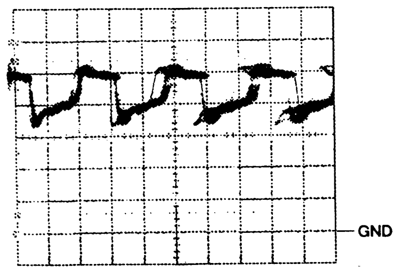
⑫ **Between R321 and R325**
V range : 10V/div.
H range : 5msec/div.



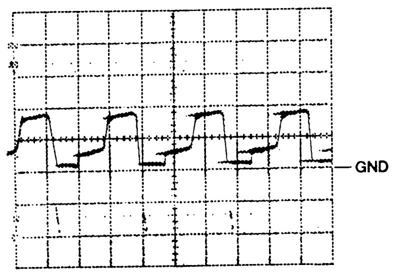
● Waveformes at Power Supply Assembly (Power Supply circuit)

- Input signal : White 50%
- Picture quality : standard
- Range : DC range (without notice)

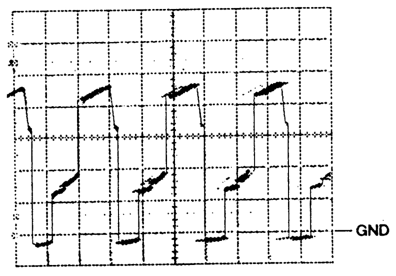
⑬ **Q108 Collector**
V range : 20V/div.
H range : 10 μsec/div.



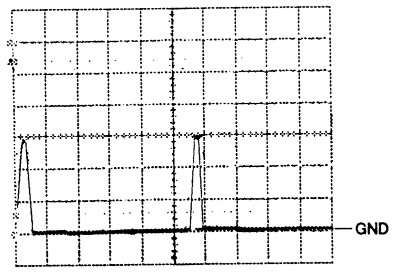
⑭ **Q107 Collector**
V range : 5V/div.
H range : 10 μsec/div.



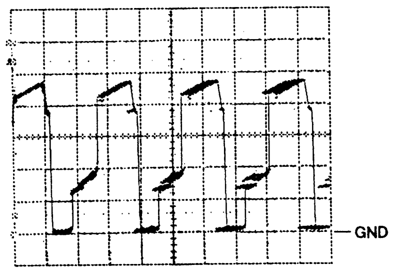
⑮ **Q106 Base**
V range : 2V/div.
H range : 10 μsec/div.



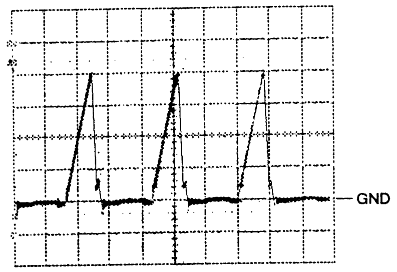
⑯ **Q106 Collector**
V range : 2V/div.
H range : 5 μsec/div.



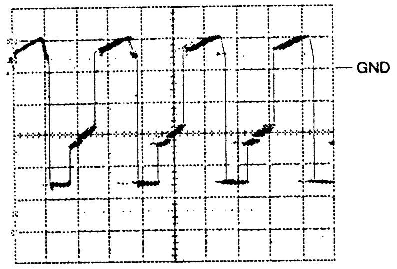
⑰ **Q106 Emitter**
V range : 2V/div.
H range : 10 μsec/div.



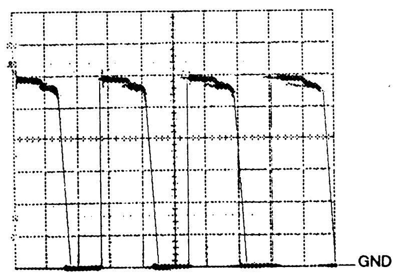
⑱ **Q105 Emitter**
V range : 0.2V/div.
H range : 10 μsec/div.



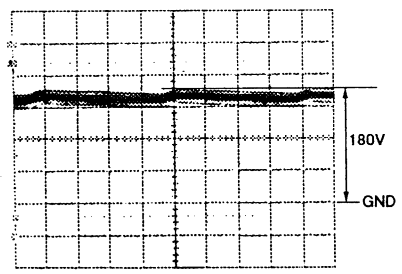
⑲ **Q105 Base**
V range : 2V/div.
H range : 10 μsec/div.



⑳ **Q105 Collector**
V range : 50V/div.
H range : 10 μsec/div.



㉑ **D101 Catode**
V range : 50V/div.
H range : 2 μsec/div.



5. PCE

NOTES:
- *Parts marke*
- *The ⚠ mark*
  be sure to u.
- *Parts marke*
- *When order.*
  Ex.1 When
  560 Ω
  47k Ω
  0.5 Ω
  1 Ω
  Ex.2 When
  5.62k
- *Parts mark*
  If any of th
- *Parts mark*
  circuit boa
  If any part

Mark No.

AV I/O–
(AWZ41

● AV I/O

SEMICON

IC8
Q671
Q67
Q675
Q67

Q67
Q69
Q70
Q86
Q97
D67

CAPACIT

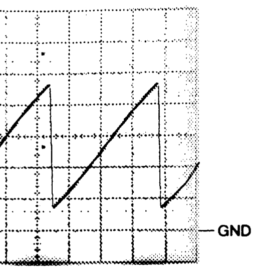
C10
C17
C17
59
59

C81
C86
C86
C87
C88

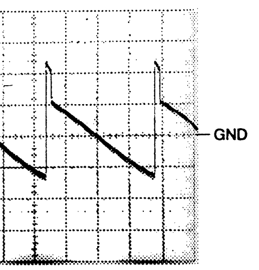
C9
C91
C92
C9
C9

C9
C9
C9

e
0.5V/div.
5msec/div.



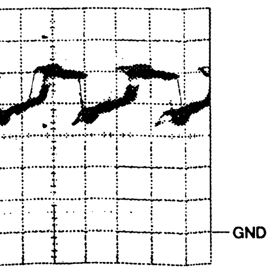
R321 and R325
10V/div.
5msec/div.



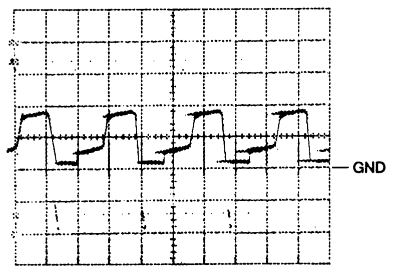
rmes at
upply Assembly
Supply circuit)

White 50%
: standard
nge (without notice)

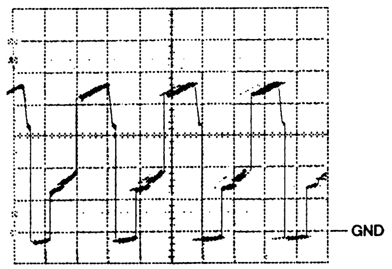
ollector
: 20V/div.
: 10 µsec/div.



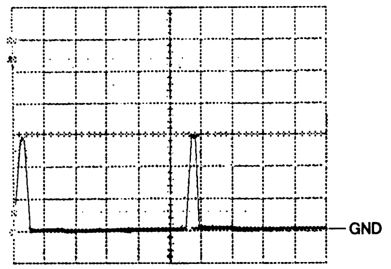
⑭ **Q107 Collector**
V range : 5V/div.
H range : 10 µsec/div.



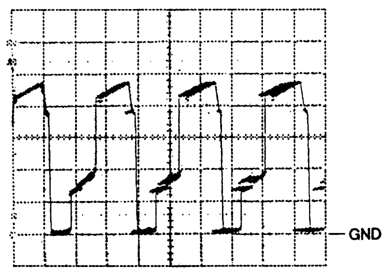
⑮ **Q106 Base**
V range : 2V/div.
H range : 10 µsec/div.



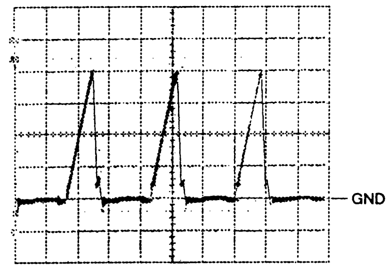
⑯ **Q106 Collector**
V range : 2V/div.
H range : 5 µsec/div.



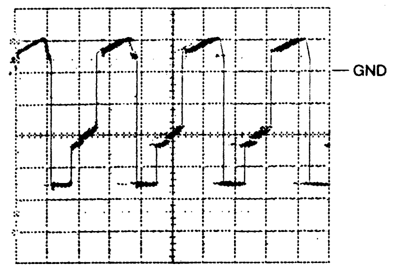
⑰ **Q106 Emitter**
V range : 2V/div.
H range : 10 µsec/div.



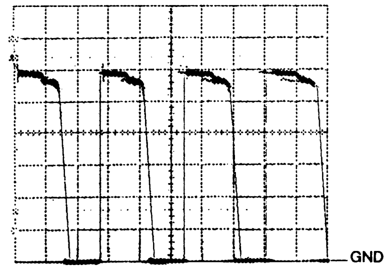
⑱ **Q105 Emitter**
V range : 0.2V/div.
H range : 10 µsec/div.



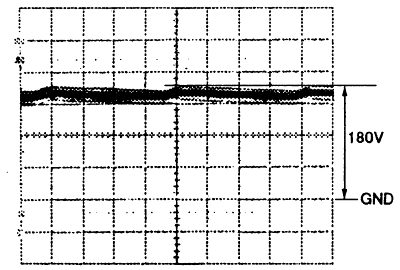
⑲ **Q105 Base**
V range : 2V/div.
H range : 10 µsec/div.



⑳ **Q105 Collector**
V range : 50V/div.
H range : 10 µsec/div.



㉑ **D101 Catode**
V range : 50V/div.
H range : 2 µsec/div.



5. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).
560 Ω → 56×10^1 → 561 ·············· RD1/8PM$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47×10^3 → 473 ·············· RD1/4PS$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ·············· RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 010 ·············· RS1P$\boxed{0}\boxed{1}\boxed{0}$K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).
5.62k Ω → 562×10^1 → 5621 ·············· RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

- *Parts marked by ☆ are important parts which relate to X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*
- *Parts marked by ✕ are important parts which relate to X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by ✕ is replaced, there is danger of being exposed to X-rays.*

AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4182)

● AV I/O SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC861	LOGIC IC	TC4051BP
	Q671, 672	TRANSISTOR	2SC1740S
	Q673, 674	TRANSISTOR	2SA933S
	Q675	TRANSISTOR	XDC124ES
	Q676	TRANSISTOR	2SA933S
	Q677-686	TRANSISTOR	2SC1740S
	Q694	TRANSISTOR	2SA933S
	Q704	TRANSISTOR	2SC1740S
	Q866	TRANSISTOR	2SA933S
	Q971, 972	TRANSISTOR	2SC1740S
	D671	DIODE	1SS252

CAPACITORS

Mark	No.	Description	Part No.
	C100, 175	ELECT. CAPACITOR	CEAS101M25
	C177	CERAMIC CAPACITOR	CKDYF473Z50
	C178	ELECT. CAPACITOR	CEAS101M25
	C593	ELECT. CAPACITOR	CEAS220M50
	C594	CERAMIC CAPACITOR	CKCYF103Z50
	C81-85	ELECT. CAPACITOR	CEAS100M50
	C86	ELECT. CAPACITOR	CEAS101M25
	C868	ELECT. CAPACITOR	CEAS100M50
	C87	ELECT. CAPACITOR	CEAS102M10
	C88, 89	ELECT. CAPACITOR	CEAS010M50
	C90	ELECT. CAPACITOR	CEAS100M50
	C91	ELECT. CAPACITOR	CEAS102M10
	C92	ELECT. CAPACITOR	CEAS101M10
	C93	ELECT. CAPACITOR	CEAS471M16
	C94	ELECT. CAPACITOR	CEAS101M10
	C95	ELECT. CAPACITOR	CEAS100M50
	C96	CERAMIC CAPACITOR	CKDYF473Z50
	C97-99	ELECT. CAPACITOR	CEAS100M50

RESISTORS

Mark	No.	Description	Part No.
⚠	R1025	CARBONFILM RESISTOR	RD1/2PMFL3R9J
	R1050	CARBON FILM RESISTOR	RD1/2PM331J
⚠	R1051	CARBONFILM RESISTOR	RD1/2PMFL100J
⚠	R1065	METAL OXIDE RESISTOR	RS1LMF4R7J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		PIN JACK(12P)	AKB1094
		PIN JACK(3P)	AKB1102

● PINP SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC701	LOGIC IC	TC4094BP
	IC702	VIDEO A/D D/A IC	MB40176PF
	IC703	VIDEO RAM	MB81C1501PF
	IC704	P IN P CONTROLLER IC	MB86153BPF
	IC705	REGULATOR IC	NJM78M05FAS
	IC706	PLL IC FOR PINP	MB3511P
	Q701, 702	TRANSISTOR	2SC1740S
	Q703, 705	TRANSISTOR	2SA933S
	Q706	TRANSISTOR	2SC1740S
	Q707	TRANSISTOR	2SA933S
	Q708-710	TRANSISTOR	2SC1740S
	Q711, 712	TRANSISTOR	2SA933S
	Q713-715	TRANSISTOR	2SC1740S
	Q716, 717	TRANSISTOR	2SA933S
	Q718	TRANSISTOR	2SC1740S
	Q719	TRANSISTOR	2SA933S
	D701-705	DIODE	1SS252

COILS

Mark	No.	Description	Part No.
	L701	AXIAL INDUCTOR	LAU2R2J
	L702	COIL (1000µH)	ATH1046
	L703	AXIAL INDUCTOR	LAUR22M

Mark	No.	Description	Part No.
	L704	AXIAL INDUCTOR	LAU151K
	L705-713	AXIAL INDUCTOR	LAU2R2J
	L715	AXIAL INDUCTOR	LAU100K
	L717	AXIAL INDUCTOR	LAU220K
	L718	AXIAL INDUCTOR	LAU101K
	L721-730	AXIAL INDUCTOR	LAUR22M

CAPACITORS

Mark	No.	Description	Part No.
	C821	ELECT. CAPACITOR	CEAS221M10
	C823	ELECT. CAPACITOR	CEAS471M16
	C825	ELECT. CAPACITOR	CEAS101M10
	C826	CERAMIC CAPACITOR	CKCYF473Z50
	C827	CERAMIC CAPACITOR	CCDSL101J50
	C828, 829	ELECT. CAPACITOR	CEAS100M50
	C830	CERAMIC CAPACITOR	CCCCH680J50
	C831	CERAMIC CAPACITOR	CKDYF103Z50
	C832	CERAMIC CAPACITOR	CCCCH150J50
	C833	ELECT. CAPACITOR	CEAS100M50
	C834	CERAMIC CAPACITOR	CCCCH150J50
	C835	CERAMIC CAPACITOR	CKDYB102K50
	C836	CERAMIC CAPACITOR	CCCCH180J50
	C837	ELECT. CAPACITOR	CEAS3R3M50
	C838	ELECT. CAPACITOR	CEASR47M50
	C839	CERAMIC CAPACITOR	CCDSL101J50
	C840	CERAMIC CAPACITOR	CCCCH100D50
	C841	MYLAR FILM CAPACITOR	CQMA103J50
	C842	ELECT. CAPACITOR	CEAS010M50
	C843	ELECT. CAPACITOR	CEASR33M50
	C844	ELECT. CAPACITOR	CEASR47M50
	C845	MYLAR FILM CAPACITOR	CQMA103J50
	C846	ELECT. CAPACITOR	CEAS2R2M50
	C847	ELECT. CAPACITOR	CEASR22M50
	C848	CERAMIC CAPACITOR	CCDSL101J50
	C849	ELECT. CAPACITOR	CEAS101M10
	C850	CERAMIC CAPACITOR	CKCYF473Z50
	C851	CERAMIC CAPACITOR	CCCCH100D50
	C852	ELECT. CAPACITOR	CEAS3R3M50
	C853	MYLAR FILM CAPACITOR	CQMA822K50
	C854	CERAMIC CAPACITOR	CCCCH100D50
	C855	CERAMIC CAPACITOR	CCCCH180J50
	C856	CERAMIC CAPACITOR	CKDYB102K50
	C857	ELECT. CAPACITOR	CEAS100M50
	C858	ELECT. CAPACITOR	CEAS102M6
	C859	CERAMIC CAPACITOR	CCCCH150J50
	C860	CERAMIC CAPACITOR	CCCCH150J50
	C861	ELECT. CAPACITOR	CEAS101M10
	C862	CERAMIC CAPACITOR	CKCYF473Z50
	C863	CERAMIC CAPACITOR	CKDYB103K50
	C864	MYLAR FILM CAPACITOR	CQMA104J50
	C865	ELECT. CAPACITOR	CEAS010M50
	C866	CERAMIC CAPACITOR	CCCCH680J50
	C867	CERAMIC CAPACITOR	CCDSL101J50
	C869	ELECT. CAPACITOR	CEAS101M25
	C870	ELECT. CAPACITOR	CEAS101M10
	C871	CERAMIC CAPACITOR	CCDSL101J50
	C872	CERAMIC CAPACITOR	CKCYF473Z50
	C873	CERAMIC CAPACITOR	CCCSL470J50
	C874	ELECT. CAPACITOR	CEAS221M10
	C875	CERAMIC CAPACITOR	CKCYF473Z50
	C876	CERAMIC CAPACITOR	CCDSL101J50
	C877	ELECT. CAPACITOR	CEAS101M25
	C878	CERAMIC CAPACITOR	CCDSL101J50
	C879	ELECT. CAPACITOR	CEAS221M10
	C880	CERAMIC CAPACITOR	CKDYF473Z50
	C881	ELECT. CAPACITOR	CEAS101M10
	C882	ELECT. CAPACITOR	CEAS471M10
	C883	MYLAR FILM CAPACITOR	CQMA102J50
	C884	ELECT. CAPACITOR	CEAS101M10
	C885	CERAMIC CAPACITOR	CKCYF473Z50
	C886	ELECT. CAPACITOR	CEAS101M10
	C887	CERAMIC CAPACITOR	CKCYF473Z50
	C888-890	ELECT. CAPACITOR	CEAS010M50
	C891	CERAMIC CAPACITOR	CKDYF473Z50
	C892, 893	ELECT. CAPACITOR	CEAS101M10
	C894	CERAMIC CAPACITOR	CKDYF473Z50
	C895	ELECT. CAPACITOR	CEAS101M10
	C897	CERAMIC CAPACITOR	CCCSL470J50
	C898	CERAMIC CAPACITOR	CCDSL101J50
	C899	ELECT. CAPACITOR	CEAS2R2M50
	C900, 901	ELECT. CAPACITOR	CEAS470M25
	C905	ELECT. CAPACITOR	CEAS471M10
	C907	CERAMIC CAPACITOR	CKCYF473Z50
	C909, 910	CERAMIC CAPACITOR	CKCYF473Z50
	C911	CERAMIC CAPACITOR	CCCCH270J50
	C912	CERAMIC CAPACITOR	CCDSL221J50
	C913-916	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	VR701	SEMI-FIXED (47kΩ)	VRTB6VS473
	R1382	METALFILM RESISTER	RN1/4PC2202F
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X701, 702	CRYSTAL RESONATOR (14.31818MHz)	ASS1056
		SHIELD CASE	ANK1202
		SHIELD PLATE	ANK1203

● Y/C SEP SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC901	DIGI-COMB FILTER HIC	SBX1709-01
	IC902	LOGIC IC	TC4066BP
	Q901-905	TRANSISTOR	2SC1740S
	Q906, 907	TRANSISTOR	2SA933S
	Q908	TRANSISTOR	2SC1740S
	Q909, 910	TRANSISTOR	2SA933S
	Q911	TRANSISTOR	2SC1740S
	Q912	TRANSISTOR	2SA933S
	Q913-916	TRANSISTOR	2SC1740S
	D907-923	DIODE	1SS252

COILS

Mark	No.	Description	Part No.
	L901-906	AXIAL INDUCTOR	LAU8R2K
	L907, 908	AXIAL INDUCTOR	LAUR22M

AV I/O-PINP-Y/C SEP ASSEMBLY

Mark	No.	Description	Part No.
CAPACITORS			
	C547	CERAMIC CAPACITOR	CKDYF103Z50
	C549	ELECT. CAPACITOR	CEAS100M50
	C551	CERAMIC CAPACITOR	CCDSL101J50
	C552	CERAMIC CAPACITOR	CCCCH221J50
	C553-555	CERAMIC CAPACITOR	CCCCH101J50
	C556, 557	CERAMIC CAPACITOR	CCCCH221J50
	C558	CERAMIC CAPACITOR	CCCCH101J50
	C559	CERAMIC CAPACITOR	CCDCH101J50
	C560	ELECT. CAPACITOR	CEAS101M25
	C561	CERAMIC CAPACITOR	CKDYF473Z50
	C562	ELECT. CAPACITOR	CEAS101M10
	C563	CERAMIC CAPACITOR	CKDYF473Z50
	C564, 565	ELECT. CAPACITOR	CEAS100M50
	C566, 567	CERAMIC CAPACITOR	CKDYF473Z50
	C568	ELECT. CAPACITOR	CEAS100M50
	C569, 570	CERAMIC CAPACITOR	CKDYF473Z50
	C571	ELECT. CAPACITOR	CEAS100M50
	C573	CERAMIC CAPACITOR	CKCYF473Z50
	C574	ELECT. CAPACITOR	CEANPR22M50
	C575	CERAMIC CAPACITOR	CKCYF102Z50
	C577	ELECT. CAPACITOR	CEAS330M35
	C578	ELECT. CAPACITOR	CEAS010M50
	C580	CERAMIC CAPACITOR	CKDYF103Z50
	C581	ELECT. CAPACITOR	CEAS100M50
	C582	ELECT. CAPACITOR	CEAS470M25
	C583, 584	ELECT. CAPACITOR	CEAS102M6
	C585	ELECT. CAPACITOR	CEAS220M50
RESISTORS			
⚠	R1167	CARBONFILM RESISTOR	RD1/2PMFL3R9J
	R1170	CARBONFILM RESISTOR	RD1/4PMFL470J
		OTHER RESISTERS	RD1/8PM□□□J

AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4195)

AWZ4195 and AWZ4182 have the same construction except for the following :

Y/C SEP SECTION

Mark	Symbol & Description	Part No.		Remarks
		AWZ4182	AWZ4195	
	C546,548	•••••	CEAS101M10	
	C547	CKDYF103Z50	•••••	
	C550	•••••	CKDYF473Z50	
	C551	CCDSL101J50	•••••	
	C552	CCCCH221J50	•••••	
	C549,564,565,568,571,581	CEAS100M50	•••••	
	C553 – 555	CCCCH101J50	•••••	
	C556,557	CCCSL221J50	•••••	
	C558,559	CCDCH101J50	•••••	
	C560	CEAS101M25	•••••	
	C561,563,566,567,569,570	CKDYF473Z50	•••••	
	C562	CEAS101M10	•••••	
	C573	CKCYF473Z50	•••••	
	C583,584	CEAS102M6	•••••	
	C585	CEAS220M50	•••••	
	D901 – 906	•••••	1SS252	
	D907 – 918,923	1SS252	•••••	
	IC901	SBX1709-01	•••••	
	L901 – 906	LAU8R2K	•••••	
	L907,908	LAUR22M	•••••	
	Q901 – 903,905	2SC1740S	•••••	
	Q906,907	2SA933S	•••••	
	R1086,1087	•••••	RD1/8PM103J	
	R1088	RD1/8PM223J	•••••	
	R1089,1094,1095	RD1/8PM563J	•••••	
	R1090,1096,1097	RD1/8PM471J	•••••	
	R1091,1107,1108	•••••	RD1/8PM101J	
	R1092,1098,1110,1115,1174	RD1/8PM102J	•••••	
	R1093,1100 – 1102,1105,1106	RD1/8PM201J	•••••	
	R1099	RD1/8PM331J	•••••	
	R1104,1109,1120,1124,1126,1127	RD1/8PM101J	•••••	
	R1112	RD1/8PM162J	RD1/8PM471J	
	R1113	RD1/8PM151J	•••••	
	R1116	RD1/8PM244J	•••••	
	R1114	RD1/8PM133J	•••••	
	R1119	RD1/8PM221J	•••••	
	R1175	RD1/8PM392J	•••••	
	X901 Comb filter module	•••••	AXX1028	

PINP SECTION

Mark	Symbol & Description	Part No.		Remarks
		AWZ4182	AWZ4195	
	D704,705	1SS252	•••••	
	Q706	2SC1740S	•••••	
	R1333	RD1/8PM472J	•••••	
	R1339	RD1/8PM473J	•••••	
	R1393	RD1/8PM102J	•••••	
	R1387	RD1/8PM122J	RD1/8PM102J	
	R1388	RD1/8PM151J	RD1/8PM221J	
	R1390	RD1/8PM301J	RD1/8PM361J	

AV I/O SECTION

This section is different in part number, they have the same service parts.

AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4240)

● AV I/O SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC861	LOGIC IC	TC4051BP
	Q674	TRANSISTOR	2SA933S
	Q675	TRANSISTOR	XDC124ES
	Q676	TRANSISTOR	2SA933S
	Q678, 679	TRANSISTOR	2SC1740S
	Q681-686	TRANSISTOR	2SC1740S
	Q704	TRANSISTOR	2SC1740S
	Q866	TRANSISTOR	2SA933S

CAPACITORS

Mark	No.	Description	Part No.
	C100	ELECT. CAPACITOR	CEAS101M25
	C177	CERAMIC CAPACITOR	CKDYF473Z50
	C178	ELECT. CAPACITOR	CEAS101M25
	C81, 83	ELECT. CAPACITOR	CEAS100M50
	C84	ELECT. CAPACITOR	CEAS100M50
	C86	ELECT. CAPACITOR	CEAS101M25
	C868	ELECT. CAPACITOR	CEAS100M50
	C87	ELECT. CAPACITOR	CEAS102M10
	C88, 89	ELECT. CAPACITOR	CEAS010M50
	C90	ELECT. CAPACITOR	CEAS100M50
	C92	ELECT. CAPACITOR	CEAS101M10
	C93	ELECT. CAPACITOR	CEAS471M16
	C94	ELECT. CAPACITOR	CEAS101M10
	C95	ELECT. CAPACITOR	CEAS100M50
	C97-99	ELECT. CAPACITOR	CEAS100M50

RESISTORS

Mark	No.	Description	Part No.
⚠	R1025	CARBONFILM RESISTOR	RD1/2PMFL3R9J
	R1050	CARBON FILM RESISTOR	RD1/2PM331J
⚠	R1051	CARBONFILM RESISTOR	RD1/2PMFL100J
⚠	R1065	METAL OXIDE RESISTOR	RS1LMF4R7J
		OTHER RESISTERS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		PIN JACK(9P)	AKB1199

● PINP SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC701	LOGIC IC	TC4094BP
	IC702	VIDEO A/D D/A IC	MB40176PF
	IC703	VIDEO RAM	MB81C1501PF
	IC704	P IN P CONTROLLER IC	MB86153BPF
	IC705	REGULATOR IC	NJM78M05FAS
	IC706	PLL IC FOR PINP	MB3511P
	Q701, 702	TRANSISTOR	2SC1740S
	Q703, 705	TRANSISTOR	2SA933S
	Q707	TRANSISTOR	2SA933S
	Q708-710	TRANSISTOR	2SC1740S
	Q711, 712	TRANSISTOR	2SA933S
	Q713-715	TRANSISTOR	2SC1740S
	Q716, 717	TRANSISTOR	2SA933S
	Q718	TRANSISTOR	2SC1740S
	Q719	TRANSISTOR	2SA933S
	D701-703	DIODE	1SS252

COILS

Mark	No.	Description	Part No.
	L701	AXIAL INDUCTOR	LAU2R2J
	L702	COIL(100MμH)	ATH1046
	L703	AXIAL INDUCTOR	LAUR22M
	L704	AXIAL INDUCTOR	LAU151K
	L705-713	AXIAL INDUCTOR	LAU2R2J
	L715	AXIAL INDUCTOR	LAU100K
	L717	AXIAL INDUCTOR	LAU220K
	L718	AXIAL INDUCTOR	LAU101K
	L721-730	AXIAL INDUCTOR	LAUR22M

CAPACITORS

Mark	No.	Description	Part No.
	C821	ELECT. CAPACITOR	CEAS221M10
	C823	ELECT. CAPACITOR	CEAS471M16
	C825	ELECT. CAPACITOR	CEAS101M10
	C826	CERAMIC CAPACITOR	CKCYF473Z50
	C827	CERAMIC CAPACITOR	CCDSL101J50

AV I/O-PINP-Y/C SEP ASSEMBLY

Mark	No.	Description	Part No.
	C828, 829	ELECT. CAPACITOR	CEAS100M50
	C830	CERAMIC CAPACITOR	CCCCH680J50
	C831	CERAMIC CAPACITOR	CKDYF103Z50
	C832	CERAMIC CAPACITOR	CCCCH150J50
	C833	ELECT. CAPACITOR	CEAS100M50
	C834	CERAMIC CAPACITOR	CCCCH150J50
	C835	CERAMIC CAPACITOR	CKDYB102K50
	C836	CERAMIC CAPACITOR	CCCCH180J50
	C837	ELECT. CAPACITOR	CEAS3R3M50
	C838	ELECT. CAPACITOR	CEASR47M50
	C839	CERAMIC CAPACITOR	CCDSL101J50
	C840	CERAMIC CAPACITOR	CCCCH100D50
	C841	MYLAR FILM CAPACITOR	CQMA103J50
	C842	ELECT. CAPACITOR	CEAS010M50
	C843	ELECT. CAPACITOR	CEASR33M50
	C844	ELECT. CAPACITOR	CEASR47M50
	C845	MYLAR FILM CAPACITOR	CQMA103J50
	C846	ELECT. CAPACITOR	CEAS2R2M50
	C847	ELECT. CAPACITOR	CEASR22M50
	C848	CERAMIC CAPACITOR	CCDSL101J50
	C849	ELECT. CAPACITOR	CEAS101M10
	C850	CERAMIC CAPACITOR	CKCYF473Z50
	C851	CERAMIC CAPACITOR	CCCCH100D50
	C852	ELECT. CAPACITOR	CEAS3R3M50
	C853	MYLAR FILM CAPACITOR	CQMA822K50
	C854	CERAMIC CAPACITOR	CCCCH100D50
	C855	CERAMIC CAPACITOR	CCCCH180J50
	C856	CERAMIC CAPACITOR	CKDYB102K50
	C857	ELECT. CAPACITOR	CEAS100M50
	C858	ELECT. CAPACITOR	CEAS102M6
	C859	CERAMIC CAPACITOR	CCCCH150J50
	C860	CERAMIC CAPACITOR	CCCCH150J50
	C861	ELECT. CAPACITOR	CEAS101M10
	C862	CERAMIC CAPACITOR	CKCYF473Z50
	C863	CERAMIC CAPACITOR	CKDYB103K50
	C864	MYLAR FILM CAPACITOR	CQMA104J50
	C865	ELECT. CAPACITOR	CEAS010M50
	C866	CERAMIC CAPACITOR	CCCCH680J50
	C867	CERAMIC CAPACITOR	CCDSL101J50
	C869	ELECT. CAPACITOR	CEAS101M25
	C870	ELECT. CAPACITOR	CEAS101M10
	C871	CERAMIC CAPACITOR	CCDSL101J50
	C872	CERAMIC CAPACITOR	CKCYF473Z50
	C873	CERAMIC CAPACITOR	CCCSL470J50
	C874	ELECT. CAPACITOR	CEAS221M10
	C875	CERAMIC CAPACITOR	CKCYF473Z50
	C876	CERAMIC CAPACITOR	CCDSL101J50
	C877	ELECT. CAPACITOR	CEAS101M25
	C878	CERAMIC CAPACITOR	CCDSL101J50
	C879	ELECT. CAPACITOR	CEAS221M10
	C880	CERAMIC CAPACITOR	CKDYF473Z50
	C881	ELECT. CAPACITOR	CEAS101M10
	C882	ELECT. CAPACITOR	CEAS471M10
	C883	MYLAR FILM CAPACITOR	CQMA102J50
	C884	ELECT. CAPACITOR	CEAS101M10
	C885	CERAMIC CAPACITOR	CKCYF473Z50
	C886	ELECT. CAPACITOR	CEAS101M10
	C887	CERAMIC CAPACITOR	CKCYF473Z50
	C888-890	ELECT. CAPACITOR	CEAS010M50
	C891	CERAMIC CAPACITOR	CKDYF473Z50
	C892, 893	ELECT. CAPACITOR	CEAS101M10
	C894	CERAMIC CAPACITOR	CKDYF473Z50
	C895	ELECT. CAPACITOR	CEAS101M10
	C897	CERAMIC CAPACITOR	CCCSL470J50
	C898	CERAMIC CAPACITOR	CCDSL101J50
	C899	ELECT. CAPACITOR	CEAS2R2M50
	C900, 901	ELECT. CAPACITOR	CEAS470M25
	C905	ELECT. CAPACITOR	CEAS471M10
	C907, 909	CERAMIC CAPACITOR	CKCYF473Z50
	C910	CERAMIC CAPACITOR	CKCYF473Z50
	C911	CERAMIC CAPACITOR	CCCCH270J50
	C912	CERAMIC CAPACITOR	CCDSL221J50
	C913-916	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	VR701	SEMI-FIXED (47kΩ)	VRTB6VS473
	R1382	METALFILM RESISTER	RN1/4PC2202F
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X701, 702	CRYSTAL RESONATOR (14.31818MHz)	ASS1056
		SHIELD CASE	ANK1202
		SHIELD PLATE	ANK1203

● Y/C SEP SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q904, 908	TRANSISTOR	2SC1740S
	Q915, 916	TRANSISTOR	2SC1740S
	D901-906	DIODE	1SS252

CAPACITORS

Mark	No.	Description	Part No.
	C546, 548	ELECT. CAPACITOR	CEAS101M10
	C550	CERAMIC CAPACITOR	CKDYF473Z50
	C582	ELECT. CAPACITOR	CEAS470M25

RESISTORS

Mark	No.	Description	Part No.
⚠	R1167	CARBONFILM RESISTOR	RD1/2PMFL3R9J
	R1170	CARBONFILM RESISTOR	RD1/4PMFL470J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X901	COMB FILTER MODULE	AXX1028

AV I/O-PINP-Y/C SEP, PINP SELECTOR AND Y/C SELECTOR ASSEMBLIES

AV I/O-PINP-Y/C SEP ASSEMBLY (AWZ4243)

● AV I/O SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC861	LOGIC IC	TC4051BP
	Q676	TRANSISTOR	2SA933S
	Q678, 679	TRANSISTOR	2SC1740S
	Q681-686	TRANSISTOR	2SC1740S
	Q704	TRANSISTOR	2SC1740S
	Q866	TRANSISTOR	2SA933S

CAPACITORS

Mark	No.	Description	Part No.
	C100	ELECT. CAPACITOR	CEAS101M25
	C177	CERAMIC CAPACITOR	CKDYF473Z50
	C178	ELECT. CAPACITOR	CEAS101M25
	C83, 84	ELECT. CAPACITOR	CEAS100M50
	C86	ELECT. CAPACITOR	CEAS101M25
	C868	ELECT. CAPACITOR	CEAS100M50
	C87	ELECT. CAPACITOR	CEAS102M10
	C88, 89	ELECT. CAPACITOR	CEAS010M50
	C90	ELECT. CAPACITOR	CEAS100M50
	C92	ELECT. CAPACITOR	CEAS101M10
	C93	ELECT. CAPACITOR	CEAS471M16
	C94	ELECT. CAPACITOR	CEAS101M10
	C95	ELECT. CAPACITOR	CEAS100M50
	C97-99	ELECT. CAPACITOR	CEAS100M50

RESISTORS

Mark	No.	Description	Part No.
	R1050	CARBON FILM RESISTOR	RD1/2PM331J
⚠	R1051	CARBONFILM RESISTOR	RD1/2PMFL100J
⚠	R1065	METAL OXIDE RESISTOR	RS1LMF4R7J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		PIN JACK(9P)	AKB1199

● Y/C SEP SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q904, 908	TRANSISTOR	2SC1740S
	Q915, 916	TRANSISTOR	2SC1740S
	D901-906	DIODE	1SS252

CAPACITORS

Mark	No.	Description	Part No.
	C546, 548	ELECT. CAPACITOR	CEAS101M10
	C550	CERAMIC CAPACITOR	CKDYF473Z50
	C582	ELECT. CAPACITOR	CEAS470M25

RESISTOR

Mark	No.	Description	Part No.
⚠	R1167	CARBONFILM RESISTOR	RD1/2PMFL3R9J
⚠	R1170	CARBONFILM RESISTOR	RD1/4PMFL470J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X901	COMB FILTER MODULE	AXX1028

● PINP SECTION

AWZ4243 HAS NO PINP SECTION.

PINP SELECTOR ASSEMBLY (AWZ4188)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC571, 572	E-SW IC	NJM2234L
	Q571	TRANSISTOR	2SA933S
	D571-580	DIODE	1SS252

CAPACITORS

Mark	No.	Description	Part No.
	C41, 42	ELECT. CAPACITOR	CEAS100M50
	C43	CERAMIC CAPACITOR	CKCYB103K50
	C44-46	ELECT. CAPACITOR	CEAS100M50
	C47	CERAMIC CAPACITOR	CKCYB103K50
	C48	ELECT. CAPACITOR	CEAS100M50
	C49	ELECT. CAPACITOR	CEAS101M25

RESISTORS

Mark	No.	Description	Part No.
		ALL RESISTORS	RD1/8PM□□□J

Y/C SELECTOR ASSEMBLY (AWZ4186)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC971	LOGIC IC	TC4052BP
	IC972	VIDEO AMP IC	MC14577BP
	Q973-978	TRANSISTOR	2SC1740S
	D971-978	ZENER DIODE	RD13ESB

CAPACITORS

Mark	No.	Description	Part No.
	C591	CERAMIC CAPACITOR	CKDYF473Z50
	C592	ELECT. CAPACITOR	CEAS101M25
	C595	CERAMIC CAPACITOR	CKDYF473Z50
	C596-598	ELECT. CAPACITOR	CEAS100M50
	C771	CERAMIC CAPACITOR	CKCYF103Z50
	C772	ELECT. CAPACITOR	CEAS220M50
	C773	CERAMIC CAPACITOR	CKCYF103Z50
	C774	ELECT. CAPACITOR	CEAS220M50
	C775	CERAMIC CAPACITOR	CKCYF103Z50
	C776	ELECT. CAPACITOR	CEAS220M50

RESISTORS

Mark	No.	Description	Part No.
		ALL RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		SOCKET	AKP1065

Y/C SELECTOR ASSEMBLY (AWZ4244)

AWZ4244 and AWZ4186 have the same construction except for the following :

Mark	Description	Part No.		Remarks
		AWZ4186	AWZ4244	
	R87	RD1/8PM302J	• • • • •	
	R95	RD1/8PM152J	RD1/8PM153J	
	R99	RD1/8PM562J	RD1/8PM563J	

AUDIO SELECTOR, REC MUTE AND TUNER-VIDEO ASSEMBLIES

AUDIO SELECTOR ASSEMBLY (AWZ4185)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC941	LOGIC IC	TC4066BP
	IC942	LOGIC IC	TC4052BP
	Q941-944	TRANSISTOR	2SC1740S
	D941-950	ZENER DIODE	RD13ESB

CAPACITORS

Mark	No.	Description	Part No.
	C781-790	ELECT. CAPACITOR	CEAS010M50
	C791, 793	CERAMIC CAPACITOR	CKDYF473Z50
	C794	ELECT. CAPACITOR	CEAS101M25

RESISTORS

Mark	No.	Description	Part No.
		ALL RESISTORS	RD1/8PM□□□J

REC MUTE ASSEMBLY (AWZ4470)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q687	TRANSISTOR	2SA933S
	Q688	TRANSISTOR	2SC1740S
	Q689	TRANSISTOR	2SA933S
	Q690, 691	TRANSISTOR	2SC1740S
	Q692	TRANSISTOR	2SA933S
	Q693	TRANSISTOR	2SC1740S
	D672-677	DIODE	1SS252

CAPACITORS

Mark	No.	Description	Part No.
	C171, 172	ELECT. CAPACITOR	CEAS220M50
	C173	ELECT. CAPACITOR	CEAS470M25
	C174	ELECT. CAPACITOR	CEAS471M16

RESISTORS

Mark	No.	Description	Part No.
		ALL RESISTORS	RD1/8PM□□□J

TUNER–VIDEO ASSEMBLY (AWV1246)

- **VIDEO SECTION**

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC252	LOGIC IC	MC14011BCP
	IC253	REGULATOR IC	NJM7809FAS
	IC254	JUNGLE IC FOR NTSC	TA8801AN
	Q231	TRANSISTOR	2SC1740S
	Q232-234	TRANSISTOR	2SA933S
	Q235-237	TRANSISTOR	2SC1740S
	Q238-242	TRANSISTOR	2SA933S
	Q243-245	TRANSISTOR	2SC1740S
	Q246	TRANSISTOR	2SA933S
	Q247	TRANSISTOR	2SC1740S
	Q248, 249	TRANSISTOR	2SA933S
	Q250, 251	TRANSISTOR	2SC1740S
	Q256, 257	TRANSISTOR	2SC1740S
	Q264, 265	TRANSISTOR	2SC1740S
	Q270-274	TRANSISTOR	2SC1740S
	Q275	TRANSISTOR	2SA933S
⚠	Q276-279	TRANSISTOR	2SC1740S
	Q280	TRANSISTOR	2SA933S
	Q281	TRANSISTOR	2SC1740S
	Q282	TRANSISTOR	2SA933S
	Q283	TRANSISTOR	2SC1740S
	Q284, 285	TRANSISTOR	2SA933S
	Q286	TRANSISTOR	2SC1740S
	Q288	TRANSISTOR	2SA933S
	Q289	TRANSISTOR	2SC1740S
	Q290	TRANSISTOR	2SA933S
	Q291-294	TRANSISTOR	2SC1740S
	Q295, 296	N-FET	2SK246
	Q297, 298	TRANSISTOR	2SA933S
	Q299	N-FET	2SK246
	Q300	TRANSISTOR	2SA933S
	D231-235	ZENER DIODE	RD15ESB
	D236, 237	DIODE	1SS252
	D238	ZENER DIODE	RD15ESB
	D239, 240	DIODE	1SS252
	D241-243	ZENER DIODE	RD15ESB
	D251	ZENER DIODE	HZS11A1L
	D253-258	DIODE	1SS252
	D259	ZENER DIODE	RD15ESB
	D260-263	DIODE	1SS252
	D265	DIODE	1SS252
	D267-275	DIODE	1SS252
	D278-281	DIODE	1SS252
	D282-287	DIODE	11E2
	D288-290	DIODE	1SS252
	D291	ZENER DIODE	RD15ESB
	D292	DIODE	1SS252
	D297, 298	ZENER DIODE	RD15ESB
	D299	DIODE	1SS252
	D300	ZENER DIODE	RD15ESB

COILS

Mark	No.	Description	Part No.
	L260-262	AXIAL INDUCTOR	LAU4R7K

CAPACITORS

Mark	No.	Description	Part No.
	C331	ELECT. CAPACITOR	CEAS2R2M50
	C332	ELECT. CAPACITOR	CEAS010M50
	C337	CERAMIC CAPACITOR	CCCSL820J50
	C338	MYLAR FILM CAPACITOR	CQMA681K50
	C339	CERAMIC CAPACITOR	CCCCH151J50
	C340	ELECT. CAPACITOR	CEAS470M25
	C341	ELECT. CAPACITOR	CEAS010M50
	C342	CERAMIC CAPACITOR	CCCCH151J50
	C343	CERAMIC CAPACITOR	CKCYF473Z50
	C345	ELECT. CAPACITOR	CEAS2R2M50
	C346	ELECT. CAPACITOR	CEAS471M10
	C347	ELECT. CAPACITOR	CEAS100M50
	C348	ELECT. CAPACITOR	CEAS010M50
	C349	ELECT. CAPACITOR	CEAS470M25
	C350	CERAMIC CAPACITOR	CKCYF473Z50
	C351	ELECT. CAPACITOR	CEANP4R7M50
	C352	ELECT. CAPACITOR	CEAS102M16
	C353	ELECT. CAPACITOR	CEAS010M50
	C354	ELECT. CAPACITOR	CEAS101M25
	C355	CERAMIC CAPACITOR	CKCYF473Z50
	C356	ELECT. CAPACITOR	CEAS101M10
	C357	CERAMIC CAPACITOR	CKCYF473Z50
	C358	ELECT. CAPACITOR	CEAS2R2M50
	C359	MYLAR FILM CAPACITOR	CQMA103K50
	C360	ELECT. CAPACITOR	CEAS2R2M50
	C361	AUDIO FILM CAPACITOR	CFTXA104J50
	C362	CERAMIC CAPACITOR	CKCYF103Z50
	C363	ELECT. CAPACITOR	CEAS2R2M50
	C364	CERAMIC CAPACITOR	CKCYF103Z50
	C365	AUDIO FILM CAPACITOR	CFTXA104J50
	C367	ELECT. CAPACITOR	CEASR47M50
	C368	MYLAR FILM CAPACITOR	CQMA124K50
	C370	MYLAR FILM CAPACITOR	CQMA223K50
	C371	CERAMIC CAPACITOR	CKCYF103Z50
	C372	ELECT. CAPACITOR	CEAS100M50
	C373	MYLAR FILM CAPACITOR	CQMA223K50
	C375	ELECT. CAPACITOR	CEAS100M50
	C376	CERAMIC CAPACITOR	CKCYF103Z50
	C377	ELECT. CAPACITOR	CEAS100M50
	C379	CERAMIC CAPACITOR	CCCCH100D50
	C381	MYLAR FILM CAPACITOR	CQMA472K50
	C382	ELECT. CAPACITOR	CEAS2R2M50
	C384	MYLAR FILM CAPACITOR	CQMA183K50
	C385, 386	ELECT. CAPACITOR	CEAS101M25
	C387	CERAMIC CAPACITOR	CCCSL101J50
	C388-390	ELECT. CAPACITOR	CEANP010M50
	C391, 392	ELECT. CAPACITOR	CEAS100M50
	C393	CERAMIC CAPACITOR	CCCSL221J50
	C396	CERAMIC CAPACITOR	CKCYB331K50
	C397	CERAMIC CAPACITOR	CCCSL121J50
	C398	CERAMIC CAPACITOR	CKCYB561K50
	C399-401	CERAMIC CAPACITOR	CCCSL151J50
	C402	ELECT. CAPACITOR	CEAS330M35
	C403	ELECT. CAPACITOR	CEAS101M25
	C405	CERAMIC CAPACITOR	CKCYF473Z50
	C406	CERAMIC CAPACITOR	CCCSL270J50

RESISTORS

Mark	No.	Description	Part No.
	VR251	SEMI-FIXED (100Ω)	ACP1037
	VR252	SEMI-FIXED (220Ω)	ACP1038
	VR253	SEMI-FIXED (4.7kΩ)	ACP1042
⚠	R1556	CARBON FILM RESISTOR	RD1/4PMFL3R9J
⚠	R1561	METAL OXIDE RESISTOR	RS2LMF3R9J
⚠	R1577	METAL OXIDE RESISTOR	RS2LMF3R3J
⚠	R1677	RESISTOR	RD1/8PM102J
	R1694	CARBON FILM RESISTOR	RD1/2PM270J
	R1698, 1699	CARBON FILM RESISTOR	RD1/2PM100J
	R1715	CARBON FILM RESISTOR	RD1/2PM100J
	R1716	CARBON FILM RESISTOR	RD1/2PM271J
	R1719, 1720	CARBON FILM RESISTOR	RD1/2PM271J
	R1721, 1722	CARBON FILM RESISTOR	RD1/2PM100J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X251	CERAMIC RESONATOR (503kHz)	ASS1019
	X252	CRYSTAL RESONATOR (3.579545MHz)	ASS1020

● CONTROL SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC451	TV CONTROL MICROCOMPUTER	PD5185B
	IC452	EEPROM	X24C04P
	IC453	SYSTEM RESET IC	MC34064P
	IC454	LOGIC IC	MC14051BCP
⚠	Q445, 446	TRANSISTOR	2SC1740S
⚠	Q450-453	TRANSISTOR	2SC1740S
⚠	Q454	TRANSISTOR	2SA933S
⚠	Q455	TRANSISTOR	2SC1740S
	Q456-458	TRANSISTOR	XDC143ES
⚠	Q459	TRANSISTOR	2SC1740S
⚠	Q460	TRANSISTOR	2SA933S
⚠	Q461	TRANSISTOR	2SD438
⚠	Q462	TRANSISTOR	2SC1740S
	Q463	TRANSISTOR	2SC3732
	Q464-466	TRANSISTOR	XDC143ES
⚠	Q467-469	TRANSISTOR	2SC1740S
⚠	Q470	TRANSISTOR	2SA933S
⚠	Q471	TRANSISTOR	2SC1740S
⚠	Q472, 473	TRANSISTOR	2SC3732
⚠	Q474	TRANSISTOR	2SC1740S
	Q475	TRANSISTOR	2SA933S
⚠	Q476	TRANSISTOR	2SC1740S
	Q477	TRANSISTOR	2SA933S
⚠	Q478	TRANSISTOR	2SC1740S

TUNER-VIDEO ASSEMBLY

Mark	No.	Description	Part No.
	Q479	TRANSISTOR	XDC124ES
⚠	Q480-482	TRANSISTOR	2SC1740S
⚠	Q483-485	TRANSISTOR	2SA933S
⚠	Q486	TRANSISTOR	2SC1740S
⚠	Q487-492	TRANSISTOR	2SA933S
	Q493	TRANSISTOR	XDC143ES
⚠	Q495	TRANSISTOR	2SC1740S
	D401-404	ZENER DIODE	RD6.8ESB
	D405-410	ZENER DIODE	RD15ESB
	D411-419	ZENER DIODE	RD6.8ESB
	D423-429	ZENER DIODE	RD6.8ESB
	D450-454	DIODE	1SS252
	D455	ZENER DIODE	RD5.6ESB2
	D456-459	DIODE	1SS252
	D460	ZENER DIODE	RD5.1ESB2
	D461-468	DIODE	1SS252
	D469	ZENER DIODE	RD6.8ESB
	D470-478	DIODE	1SS252
	D480-483	ZENER DIODE	RD6.8ESB
	D485	ZENNER DIODE	RD15ESB
	D486-488	ZENER DIODE	RD6.8ESB

COIL

	L401	AXIAL INDUCTOR	LAU220K

CAPACITORS

Mark	No.	Description	Part No.
	TC401	CERAMIC TRIMMER (9.8p to 60p)	ACM-020
	C951	CERAMIC CAPACITOR	CKCYB103K50
	C952	CERAMIC CAPACITOR	CKDYF473Z50
	C953	ELECT. CAPACITOR	CEAS010M50
	C954	CERAMIC CAPACITOR	CKCYB103K50
	C955	CERAMIC CAPACITOR	CKCYB222K50
	C956	ELECT. CAPACITOR	CEAS101M10
	C957	CERAMIC CAPACITOR	CKCYF473Z50
	C959	CERAMIC CAPACITOR	CKCYB103K50
	C960	CERAMIC CAPACITOR	CCCCH120J50
	C961	CERAMIC CAPACITOR	CCCCH150J50
	C962	CERAMIC CAPACITOR	CKCYF473Z50
	C963	ELECT. CAPACITOR	CEAS101M10
	C964	ELECT. CAPACITOR	CEAS0R1M50
	C965,966	ELECT. CAPACITOR	CEAS2R2M50
	C967	CERAMIC CAPACITOR	CKCYF473Z50
	C968-970	ELECT. CAPACITOR	CEAS2R2M50
	C971-976	ELECT. CAPACITOR	CEAS010M50
	C977	CERAMIC CAPACITOR	CKCYB103K50
	C979	CERAMIC CAPACITOR	CCCSL150J50
	C980,981	CERAMIC CAPACITOR	CCCSL330J50
	C982	ELECT. CAPACITOR	CEAS100M50
	C983	CERAMIC CAPACITOR	CKCYF473Z50
	C984	CERAMIC CAPACITOR	CKCYB103K50
	C985	ELECT. CAPACITOR	CEAS010M50
	C986	ELECT. CAPACITOR	CEAS0R1M50
	C987	ELECT. CAPACITOR	CEAS470M25
	C988	CERAMIC CAPACITOR	CKCYF473Z50
	C989	ELECT. CAPACITOR	CEAS470M25
	C990	CERAMIC CAPACITOR	CKCYB103K50
	C991	ELECT. CAPACITOR	CEAS470M25
	C992	CERAMIC CAPACITOR	CKCYF473Z50
	C993	CERAMIC CAPACITOR	CCCSL151J50
	C995	MYLAR FILM CAPACITOR	CQMA562K50

RESISTORS

	R579,580	CARBON FILM RESISTOR	RD1/4PM221J
	R590	CARBON FILM RESISTOR	RD1/4PM471J
⚠	R591	CARBON FILM RESISTOR	RD1/4PMFL3R9J
	R594	METALFILM RESISTER	RN1/4PC1002F
	R595	METALFILM RESISTER	RN1/4PC3901F
	R608	METALFILM RESISTER	RN1/4PC2202F
⚠	R620	CARBON FILM RESISTOR	RD1/4PMFL3R9J
	R642	RESISTOR ARRAY(10kΩ)	RA4T103J
	R645	RESISTOR ARRAY (10kΩ)	RA8T103J
	R646	RESISTOR ARRAY (10kΩ)	RA8T103J
	R680	RESISTOR ARRAY (15kΩ)	RA8T153J
⚠	R687	CARBON FILM RESISTOR	RD1/4PMFL3R9J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

	X451	CERAMIC OSCILLATOR (4.19MHz)	ASS1022
		MINI JACK	AKN-207

• TUNER SECTION

SEMICONDUCTORS

	IC351	OP-AMP IC	NJM4558LD
	IC352	US MPX DECODER IC	CXA1124AS
	Q353,354	TRANSISTOR	2SC1740S
	Q355	TRANSISTOR	2SA933S
⚠	Q356	TRANSISTOR	2SD438
	Q361	TRANSISTOR	2SA933S
	Q363,364	TRANSISTOR	2SC1740S
	Q365	TRANSISTOR	2SA933S
	Q366	TRANSISTOR	2SC1740S
	Q367,368	TRANSISTOR	XDC124ES
	D351-360	DIODE	1SS252
	D361	ZENER DIODE	RD30ESB3
	D362	ZENER DIODE	RD5.6ESB2
	D363-372	DIODE	1SS252

COIL

	L351	AXIAL INDUCTOR	LAU2R2J

CAPACITORS

	C491-494	CERAMIC CAPACITOR	CCDSL101J50
	C495	CERAMIC CAPACITOR	CKDYB102K50
	C496	ELECT. CAPACITOR	CEAS102M16
	C497	CERAMIC CAPACITOR	CKDYF103Z50
	C498	ELECT. CAPACITOR	CEAS4R7M50
	C499	CERAMIC CAPACITOR	CKDYB471K50
	C500	MYLAR FILM CAPACITOR	CQMA563J50
	C501	ELECT. CAPACITOR	CEAS4R7M50
	C502	ELECT. CAPACITOR	CEASR47M50
	C503	MYLAR FILM CAPACITOR	CQMA562J50
	C504	MYLAR FILM CAPACITOR	CQMA123J50

Mark	No.	Description	Part No.
	C505	ELECT. CAPACITOR	CEAS4R7M50
	C506	ELECT. CAPACITOR	CEANPR22M50
	C507	ELECT. CAPACITOR	CEAS470M25
	C508	CERAMIC CAPACITOR	CKDYF103Z50
	C509	MYLAR FILM CAPACITOR	CQMA272J50
	C510	ELECT. CAPACITOR	CEANP4R7M50
	C511	ELECT. CAPACITOR	CEAS100M50
	C512	CERAMIC CAPACITOR	CKCYB222K50
	C513	ELECT. CAPACITOR	CEJA2R2M50
	C514	ELECT. CAPACITOR	CEAS010M50
	C515	CERAMIC CAPACITOR	CKCYB222K50
	C516	ELECT. CAPACITOR	CEAS3R3M50
	C517	ELECT. CAPACITOR	CEAS2R2M50
	C518, 519	ELECT. CAPACITOR	CEAS4R7M50
	C520	ELECT. CAPACITOR	CEAS4R7M50
	C521	AUDIO FILM CAPACITOR	CFTXA473J50
	C522	ELECT. CAPACITOR	CEAS470M25
	C523	CERAMIC CAPACITOR	CKDYB102K50
	C524	MYLAR FILM CAPACITOR	CQMA103J50
	C525	CERAMIC CAPACITOR	CKCYX473M25
	C526, 527	ELECT. CAPACITOR	CEAS330M35
	C531	ELECT. CAPACITOR	CEAS2R2M50
	C533	ELECT. CAPACITOR	CEAS331M16
	C535, 536	MYLAR FILM CAPACITOR	CQMA104J50
	C539	ELECT. CAPACITOR	CEAS101M10

RESISTORS

Mark	No.	Description	Part No.
	VR351	SEMI-FIXED (10kΩ)	ACP1043
	VR352	SEMI-FIXED (4.7kΩ)	ACP1042
	VR353, 354	SEMI-FIXED (47kΩ)	ACP1045
⚠	R862	METAL OXIDE RESISTOR	RS2LMF560J
	R873	CARBON FILM RESISTOR	RD1/4PM471J
⚠	R876	CARBONFILM RESISTOR	RD1/2PMFL680J
	R885	METALFILM RESISTER	RN1/4PC1202F
	R900	METALFILM RESISTER	RN1/4PC7502F
	R901	METALFILM RESISTER	RN1/4PC8201F
	R928	METALFILM RESISTER	RN1/4PC6801F
	R929	METALFILM RESISTER	RN1/4PC3301F
	R933	METALFILM RESISTER	RN1/4PC4302F
	R939, 941	METALFILM RESISTER	RN1/4PC4702F
⚠	R951	CARBON FILM RESISTOR	RD1/2PMFL5R6J
		OTHER RESISTORS	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Part No.
		TV FRONT END & IF PACK	AXF1056

● AUDIO SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC301	AUDIO IC	TA7630P
	IC302	AUDIO IC	LA4280-P
	Q301, 302	TRANSISTOR	2SC1740S
	Q303, 304	TRANSISTOR	2SC3327
	Q305, 306	TRANSISTOR	2SC1740S
	Q307	TRANSISTOR	2SA933S
	Q308	TRANSISTOR	2SC1740S
	D302-304	DIODE	1SS252
	D305, 306	ZENER DIODE	RD6.8ESB
	D307-315	DIODE	1SS252
	D316	ZENER DIODE	RD5.1ESB
	D317, 318	DIODE	1SS252
	D321-326	ZENER DIODE	RD15ESB
	D327-333	ZENER DIODE	RD20ESB
	D341-344	DIODE	1SS252
	D349, 350	DIODE	1SS252

COILS

Mark	No.	Description	Part No.
	L301, 302	COIL (1μH)	ATH-133

CAPACITORS

Mark	No.	Description	Part No.
	C431, 432	AUDIO FILM CAPACITOR	CFTXA154J50
	C433	ELECT. CAPACITOR	CEAS470M25
	C434, 435	CERAMIC CAPACITOR	CKCYB562K50
	C436, 437	AUDIO FILM CAPACITOR	CFTXA124J50
	C438	ELECT. CAPACITOR	CEAS470M25
	C439-442	ELECT. CAPACITOR	CEAS100M50
	C443	CERAMIC CAPACITOR	CKCYF473Z50
	C444	ELECT. CAPACITOR	CEAS222M16
	C445, 446	CERAMIC CAPACITOR	CKMYB561K50
	C447	ELECT. CAPACITOR	CEAS470M25
	C448, 449	ELECT. CAPACITOR	CEASR47M50
	C450	ELECT. CAPACITOR	CEAS100M50
	C451	CERAMIC CAPACITOR	CKMYB151K50
	C452	ELECT. CAPACITOR	CEAS330M35
	C453	ELECT. CAPACITOR	CEAS470M50
	C454	ELECT. CAPACITOR	CEAS2R2M50
	C455	ELECT. CAPACITOR	CEAS102M6
	C456	ELECT. CAPACITOR	CEAS2R2M50
	C457	ELECT. CAPACITOR	CEAS330M35
	C458	CERAMIC CAPACITOR	CKMYB151K50
	C459	ELECT. CAPACITOR	CEAS222M35
	C460	AUDIO FILM CAPACITOR	CFTXA124J50
	C461	CERAMIC CAPACITOR	CKCYF473Z50
	C462	ELECT. CAPACITOR	CEAS221M50
	C463	CERAMIC CAPACITOR	CKCYF473Z50
	C464	ELECT. CAPACITOR	CEAS471M50
	C465	ELECT. CAPACITOR	CEAS222M35
	C466	AUDIO FILM CAPACITOR	CFTXA124J50
	C467	ELECT. CAPACITOR	CEAS221M50
	C468, 472	CERAMIC CAPACITOR	CKCYF473Z50
	C485, 486	CERAMIC CAPACITOR	CKCYF473Z50
	C488	ELECT. CAPACITOR	CEAS101M25

RESISTORS

Mark	No.	Description	Part No.
⚠	R785	CARBON FILM RESISTOR	RD1/4PMFL150J
	R817	CARBONFILM RESISTOR	RD1/2PM152J
⚠	R818	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R819	CARBON FILM RESISTOR	RD1/4PMFL2R2J
	R821	CARBONFILM RESISTOR	RD1/2PM152J
⚠	R823	CARBON FILM RESISTOR	RD1/4PMFL2R2J
⚠	R825	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R835	CARBON FILM RESISTOR	RD1/4PMFL100J
		OTHER RESISTORS	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Part No.
		SPEAKER TERMINAL 4-P	AKE1012

TUNER–VIDEO ASSEMBLY (AWV1252)

AWV1252 and AWV1246 have the same construction except for the following :

VIDEO SECTION

Mark	Symbol & Description	Part No.		Remarks
		AWV1246	AWV1252	
	C334	·····	CCCSL121J50	
	C335,336	·····	CKCYB391K50	
	C344	·····	CKCYB562K50	
	L254	·····	LAU680K	
	L255,257	·····	LAU3R9K	
	L256	·····	LAU1R8M	
	R1505	·····	RD1/8PM681J	
	R1506	·····	RD1/8PM102J	
	R1507	·····	RD1/8PM471J	

TUNER, AUDIO and CONTROL SECTIONS

Although these sections are different in part number, they have the same service parts.

TUNER–VIDEO ASSEMBLY (AWV1255)

● VIDEO SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC253	REGULATOR IC	NJM7809FAS
	IC254	JUNGLE IC FOR NTSC	TA8801AN
	Q231	TRANSISTOR	2SC1740S
	Q232-234	TRANSISTOR	2SA933S
	Q235-237	TRANSISTOR	2SC1740S
	Q238-242	TRANSISTOR	2SA933S
	Q243-245	TRANSISTOR	2SC1740S
	Q246	TRANSISTOR	2SA933S
	Q247	TRANSISTOR	2SC1740S
	Q248, 249	TRANSISTOR	2SA933S
	Q250, 251	TRANSISTOR	2SC1740S
	Q252	TRANSISTOR	2SA933S
	Q253, 256	TRANSISTOR	2SC1740S
	Q257	TRANSISTOR	2SC1740S
	Q264, 265	TRANSISTOR	2SC1740S
	Q271-274	TRANSISTOR	2SC1740S
	Q275	TRANSISTOR	2SA933S
⚠	Q276-279	TRANSISTOR	2SC1740S
	Q280	TRANSISTOR	2SA933S
	Q281	TRANSISTOR	2SC1740S
	Q282	TRANSISTOR	2SA933S
	Q283	TRANSISTOR	2SC1740S
	Q284, 285	TRANSISTOR	2SA933S
	Q286	TRANSISTOR	2SC1740S
	Q288	TRANSISTOR	2SA933S
	Q289	TRANSISTOR	2SC1740S
	Q290	TRANSISTOR	2SA933S
	Q291-294	TRANSISTOR	2SC1740S
	Q297, 298	TRANSISTOR	2SA933S
	Q300	TRANSISTOR	2SA933S
	D231-235	ZENER DIODE	RD15ESB
	D236, 237	DIODE	1SS252
	D238	ZENER DIODE	RD15ESB
	D239, 240	DIODE	1SS252
	D241-243	ZENER DIODE	RD15ESB
	D251	ZENER DIODE	HZS11A1L
	D255-258	DIODE	1SS252
	D259	ZENER DIODE	RD15ESB
	D260-275	DIODE	1SS252
	D278-281	DIODE	1SS252
	D282-287	DIODE	11E2
	D288-290	DIODE	1SS252
	D291	ZENER DIODE	RD15ESB
	D292	DIODE	1SS252
	D297, 298	ZENER DIODE	RD15ESB
	D299	DIODE	1SS252
	D300	ZENER DIODE	RD15ESB

COILS

Mark	No.	Description	Part No.
	L254	AXIAL INDUCTOR	LAU680K
	L255	AXIAL INDUCTOR	LAU3R9K
	L256	AXIAL INDUCTOR	LAU1R8M
	L257	AXIAL INDUCTOR	LAU3R9K
	L260-262	AXIAL INDUCTOR	LAU4R7K
	L263	AXIAL INDUCTOR	LAU390K

CAPACITORS

Mark	No.	Description	Part No.
	C331	ELECT. CAPACITOR	CEAS2R2M50
	C332	ELECT. CAPACITOR	CEAS010M50
	C334	CERAMIC CAPACITOR	CCCSL121J50
	C335, 336	CERAMIC CAPACITOR	CKCYB391K50
	C341	ELECT. CAPACITOR	CEAS220M50

Mark	No.	Description	Part No.
	C344	CERAMIC CAPACITOR	CKCYB562K50
	C345	ELECT. CAPACITOR	CEAS2R2M50
	C346	ELECT. CAPACITOR	CEAS471M10
	C347	ELECT. CAPACITOR	CEAS100M50
	C348	ELECT. CAPACITOR	CEAS010M50
	C349	ELECT. CAPACITOR	CEAS470M25
	C350	CERAMIC CAPACITOR	CKCYF473Z50
	C351	ELECT. CAPACITOR	CEANP4R7M50
	C352	ELECT. CAPACITOR	CEAS102M16
	C353	ELECT. CAPACITOR	CEAS010M50
	C354	ELECT. CAPACITOR	CEAS101M25
	C355	CERAMIC CAPACITOR	CKCYF473Z50
	C356	ELECT. CAPACITOR	CEAS101M10
	C357	CERAMIC CAPACITOR	CKCYF473Z50
	C358	ELECT. CAPACITOR	CEAS2R2M50
	C359	MYLAR FILM CAPACITOR	CQMA103K50
	C360	ELECT. CAPACITOR	CEAS2R2M50
	C361	AUDIO FILM CAPACITOR	CFTXA104J50
	C362	CERAMIC CAPACITOR	CKCYF103Z50
	C363	ELECT. CAPACITOR	CEAS2R2M50
	C364	CERAMIC CAPACITOR	CKCYF103Z50
	C365	AUDIO FILM CAPACITOR	CFTXA104J50
	C367	ELECT. CAPACITOR	CEAS010M50
	C368	MYLAR FILM CAPACITOR	CQMA124K50
	C370	MYLAR FILM CAPACITOR	CQMA223K50
	C371	CERAMIC CAPACITOR	CKCYF103Z50
	C372	ELECT. CAPACITOR	CEAS100M50
	C373	MYLAR FILM CAPACITOR	CQMA223K50
	C374, 375	ELECT. CAPACITOR	CEAS100M50
	C376	CERAMIC CAPACITOR	CKCYF103Z50
	C377	ELECT. CAPACITOR	CEAS100M50
	C379	CERAMIC CAPACITOR	CCCCH100D50
	C381	MYLAR FILM CAPACITOR	CQMA472K50
	C382	ELECT. CAPACITOR	CEAS2R2M50
	C384	MYLAR FILM CAPACITOR	CQMA183K50
	C385, 386	ELECT. CAPACITOR	CEAS101M25
	C387	CERAMIC CAPACITOR	CCCSL101J50
	C393	CERAMIC CAPACITOR	CCCSL221J50
	C396	CERAMIC CAPACITOR	CKCYB331K50
	C397	CERAMIC CAPACITOR	CCCSL121J50
	C398	CERAMIC CAPACITOR	CKCYB561K50
	C399-401	CERAMIC CAPACITOR	CCCSL151J50
	C402	ELECT. CAPACITOR	CEAS330M35
	C403	ELECT. CAPACITOR	CEAS101M25
	C405	CERAMIC CAPACITOR	CKCYF473Z50
	C406	CERAMIC CAPACITOR	CCCSL270J50
	C409	CERAMIC CAPACITOR	CCCSL220J50

RESISTORS

Mark	No.	Description	Part No.
	VR251	SEMI-FIXED (100Ω)	ACP1037
	VR252	SEMI-FIXED (220Ω)	ACP1038
	VR253	SEMI-FIXED (4.7kΩ)	ACP1042
	R1556	CARBON FILM RESISTOR	RD1/4PMFL3R9J
	R1561	METAL OXIDE RESISTOR	RS2LMF4R7J
	R1577	METAL OXIDE RESISTOR	RS2LMF3R3J
⚠	R1677	RESISTOR	RD1/8PM561J
	R1694	CARBON FILM RESISTOR	RD1/2PM270J
	R1698, 1699	CARBON FILM RESISTOR	RD1/2PM100J
	R1715	CARBON FILM RESISTOR	RD1/2PM100J
	R1716, 1719	CARBONFILM RESISTOR	RD1/2PM271J
	R1720	CARBONFILM RESISTOR	RD1/2PM271J
	R1721, 1722	CARBON FILM RESISTOR	RD1/2PM100J
		OTHER RESISTORS	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Part No.
	X251	CERAMIC RESONATOR (503kHz)	ASS1019
	X252	CRYSTAL RESONATOR (3.579545MHz)	ASS1020
	DL253	DELAY LINE	ATN1013

• CONTROL SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC451	TV CONTROL MICROCOMPUTER	PD5186B
	IC452	EEPROM	X24C02P
	IC453	SYSTEM RESET IC	MC34064P
	IC454	LOGIC IC	MC14051BCP
⚠	Q445, 446	TRANSISTOR	2SC1740S
⚠	Q450-453	TRANSISTOR	2SC1740S
⚠	Q454	TRANSISTOR	2SA933S
⚠	Q455	TRANSISTOR	2SC1740S
	Q456-458	TRANSISTOR	XDC143ES
⚠	Q459	TRANSISTOR	2SC1740S
⚠	Q460	TRANSISTOR	2SA933S
⚠	Q461	TRANSISTOR	2SD438
⚠	Q462	TRANSISTOR	2SC1740S
	Q463	TRANSISTOR	2SC3732
	Q464-466	TRANSISTOR	XDC143ES
⚠	Q467-469	TRANSISTOR	2SC1740S
⚠	Q470	TRANSISTOR	2SA933S
⚠	Q471	TRANSISTOR	2SC1740S
⚠	Q472, 473	TRANSISTOR	2SC3732
⚠	Q474	TRANSISTOR	2SC1740S
	Q479	TRANSISTOR	XDC124ES
⚠	Q480-482	TRANSISTOR	2SC1740S
⚠	Q483-485	TRANSISTOR	2SA933S
⚠	Q486	TRANSISTOR	2SC1740S
⚠	Q487-492	TRANSISTOR	2SA933S
	Q493	TRANSISTOR	XDC143ES
⚠	Q495	TRANSISTOR	2SC1740S
	D401-404	ZENER DIODE	RD6.8ESB
	D405-410	ZENER DIODE	RD15ESB
	D411-419	ZENER DIODE	RD6.8ESB
	D423-429	ZENER DIODE	RD6.8ESB
	D450-454	DIODE	1SS252
	D455	ZENER DIODE	RD5.6ESB2
	D456-459	DIODE	1SS252
	D460	ZENER DIODE	RD5.1ESB2
	D461-468	DIODE	1SS252
	D469	ZENER DIODE	RD6.8ESB
	D470-478	DIODE	1SS252
	D480-483	ZENER DIODE	RD6.8ESB
	D485	ZENER DIODE	RD15ESB
	D486-488	ZENER DIODE	RD6.8ESB

TUNER - VIDEO ASSEMBLY

Mark	No.	Description	Part No.
COIL			
	L401	AXIAL INDUCTOR	LAU220K
CAPACITORS			
	TC401	CERAMIC TRIMMER (9.8p to 60p)	ACM-020
	C951	CERAMIC CAPACITOR	CKCYB103K50
	C952	CERAMIC CAPACITOR	CKDYF473Z50
	C953	ELECT. CAPACITOR	CEAS010M50
	C954	CERAMIC CAPACITOR	CKCYB103K50
	C955	CERAMIC CAPACITOR	CKCYB222K50
	C956	ELECT. CAPACITOR	CEAS101M10
	C957	CERAMIC CAPACITOR	CKCYF473Z50
	C959	CERAMIC CAPACITOR	CKCYB103K50
	C960	CERAMIC CAPACITOR	CCCCH120J50
	C961	CERAMIC CAPACITOR	CCCCH150J50
	C962	CERAMIC CAPACITOR	CKCYF473Z50
	C963	ELECT. CAPACITOR	CEAS101M10
	C964	ELECT. CAPACITOR	CEAS0R1M50
	C967	CERAMIC CAPACITOR	CKCYF473Z50
	C968-970	ELECT. CAPACITOR	CEAS2R2M50
	C971-976	ELECT. CAPACITOR	CEAS010M50
	C977	CERAMIC CAPACITOR	CKCYB103K50
	C979	CERAMIC CAPACITOR	CCCSL150J50
	C980, 981	CERAMIC CAPACITOR	CCCSL330J50
	C982	ELECT. CAPACITOR	CEAS100M50
	C983	CERAMIC CAPACITOR	CKCYF473Z50
	C984	CERAMIC CAPACITOR	CKCYB103K50
	C985	ELECT. CAPACITOR	CEAS010M50
	C986	ELECT. CAPACITOR	CEAS0R1M50
	C987	ELECT. CAPACITOR	CEAS470M25
	C988	CERAMIC CAPACITOR	CKCYF473Z50
	C989	ELECT. CAPACITOR	CEAS470M25
	C990	CERAMIC CAPACITOR	CKCYB103K50
	C991	ELECT. CAPACITOR	CEAS470M25
	C992	CERAMIC CAPACITOR	CKCYF473Z50
	C993	CERAMIC CAPACITOR	CCCSL151J50
	C995	MYLAR FILM CAPACITOR	CQMA562K50
RESISTORS			
	R579, 580	CARBON FILM RESISTOR	RD1/4PM221J
	R590	CARBON FILM RESISTOR	RD1/4PM471J
⚠	R591	CARBON FILM RESISTOR	RD1/4PMFL3R9J
	R594	METALFILM RESISTER	RN1/4PC1802F
	R595	METALFILM RESISTER	RN1/4PC3901F
	R608	METALFILM RESISTER	RN1/4PC2202F
⚠	R620	CARBON FILM RESISTOR	RD1/4PMFL3R9J
	R642	RESISTOR ARRAY	RA4T103J
	R645, 646	RESISTOR ARRAY (10kΩ)	RA8T103J
	R680	RESISTOR ARRAY (15kΩ)	RA8T153J
⚠	R687	CARBON FILM RESISTOR	RD1/4PMFL3R9J
		OTHER RESISTORS	RD1/8PM☐☐☐J
OTHERS			
	X451	CERAMIC OSCILLATOR (4.19MHz)	ASS1022
		MINI JACK	AKN-207

Mark	No.	Description	Part No.
● TUNER SECTION			
SEMICONDUCTORS			
	IC351	OP-AMP IC	NJM4558LD
	IC352	US MPX DECODER IC	CXA1124AS
	Q353, 354	TRANSISTOR	2SC1740S
	Q355	TRANSISTOR	2SA933S
⚠	Q356	TRANSISTOR	2SD438
	Q361	TRANSISTOR	2SA933S
	Q363, 364	TRANSISTOR	2SC1740S
	Q365	TRANSISTOR	2SA933S
	Q366	TRANSISTOR	2SC1740S
	Q367, 368	TRANSISTOR	XDC124ES
	D351-360	DIODE	1SS252
	D361	ZENER DIODE	RD30ESB3
	D362	ZENER DIODE	RD5.6ESB2
	D363-372	DIODE	1SS252
COIL			
	L351	AXIAL INDUCTOR	LAU2R2J
CAPACITORS			
	C491-494	CERAMIC CAPACITOR	CCDSL101J50
	C495	CERAMIC CAPACITOR	CKDYB102K50
	C496	ELECT. CAPACITOR	CEAS102M16
	C497	CERAMIC CAPACITOR	CKDYF103Z50
	C498	ELECT. CAPACITOR	CEAS4R7M50
	C499	CERAMIC CAPACITOR	CKDYB471K50
	C500	MYLAR FILM CAPACITOR	CQMA563J50
	C501	ELECT. CAPACITOR	CEAS4R7M50
	C502	ELECT. CAPACITOR	CEASR47M50
	C503	MYLAR FILM CAPACITOR	CQMA562J50
	C504	MYLAR FILM CAPACITOR	CQMA123J50
	C505	ELECT. CAPACITOR	CEAS4R7M50
	C506	ELECT. CAPACITOR	CEANPR22M50
	C507	ELECT. CAPACITOR	CEAS470M16
	C508	CERAMIC CAPACITOR	CKDYF103Z50
	C509	MYLAR FILM CAPACITOR	CQMA272J50
	C510	ELECT. CAPACITOR	CEANP4R7M50
	C511	ELECT. CAPACITOR	CEAS100M50
	C512	CERAMIC CAPACITOR	CKCYB222K50
	C513	ELECT. CAPACITOR	CEJA2R2M50
	C514	ELECT. CAPACITOR	CEAS010M50
	C515	CERAMIC CAPACITOR	CKCYB222K50
	C516	ELECT. CAPACITOR	CEAS3R3M50
	C517	ELECT. CAPACITOR	CEAS2R2M50
	C518-520	ELECT. CAPACITOR	CEAS4R7M50
	C521	AUDIO FILM CAPACITOR	CFTXA473J50
	C522	ELECT. CAPACITOR	CEAS470M16
	C523	CERAMIC CAPACITOR	CKDYB102K50
	C524	MYLAR FILM CAPACITOR	CQMA103J50
	C525	CERAMIC CAPACITOR	CKCYX473M25
	C526, 527	ELECT. CAPACITOR	CEAS330M16
	C531	ELECT. CAPACITOR	CEAS2R2M50
	C533	ELECT. CAPACITOR	CEAS331M16
	C535, 536	MYLAR FILM CAPACITOR	CQMA104J50
	C539	ELECT. CAPACITOR	CEAS101M10

RESISTORS

Mark	No.	Description	Part No.
	VR351	SEMI-FIXED (10kΩ)	ACP1043
	VR352	SEMI-FIXED (4.7kΩ)	ACP1042
	VR353, 354	SEMI-FIXED (47kΩ)	ACP1045
⚠	R862	METAL OXIDE RESISTOR	RS2LMF560J
	R873	CARBON FILM RESISTOR	RD1/4PM471J
⚠	R876	CARBONFILM RESISTOR	RD1/2PMFL680J
	R885	METALFILM RESISTER	RN1/4PC1202F
	R900	METALFILM RESISTER	RN1/4PC7502F
	R901	METALFILM RESISTER	RN1/4PC8201F
	R928	METALFILM RESISTER	RN1/4PC6801F
	R929	METALFILM RESISTER	RN1/4PC3301F
	R933	METALFILM RESISTER	RN1/4PC4302F
	R939, 941	METALFILM RESISTER	RN1/4PC4702F
⚠	R951	CARBON FILM RESISTOR	RD1/2PMFL5R6J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		TV FRONT END & IF PACK	AXF1056

● AUDIO SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC301	AUDIO IC	TA7630P
	IC302	AUDIO IC	LA4280-P
	Q301, 302	TRANSISTOR	2SC1740S
	Q303, 304	TRANSISTOR	2SC3327
	Q305, 306	TRANSISTOR	2SC1740S
	Q307	TRANSISTOR	2SA933S
	Q308	TRANSISTOR	2SC1740S
	D302-304	DIODE	1SS252
	D305, 306	ZENER DIODE	RD6.8ESB
	D307-315	DIODE	1SS252
	D316	ZENER DIODE	RD5.1ESB
	D317-320	DIODE	1SS252
	D321-326	ZENER DIODE	RD15ESB
	D341-344	DIODE	1SS252

SWITCH

Mark	No.	Description	Part No.
	S301	SLIDE SWITCH	ASH1004

COILS

Mark	No.	Description	Part No.
	L301, 302	COIL (1μH)	ATH-133

CAPACITORS

Mark	No.	Description	Part No.
	C431, 432	AUDIO FILM CAPACITOR	CFTXA154J50
	C433	ELECT. CAPACITOR	CEAS470M25
	C434, 435	CERAMIC CAPACITOR	CKCYB562K50
	C436, 437	AUDIO FILM CAPACITOR	CFTXA124J50
	C438	ELECT. CAPACITOR	CEAS470M25
	C439-442	ELECT. CAPACITOR	CEAS100M50
	C443	CERAMIC CAPACITOR	CKCYF473Z50
	C444	ELECT. CAPACITOR	CEAS222M16
	C445, 446	CERAMIC CAPACITOR	CKMYB561K50
	C447	ELECT. CAPACITOR	CEAS470M25
	C448, 449	ELECT. CAPACITOR	CEASR47M50
	C450	ELECT. CAPACITOR	CEAS100M50
	C451	CERAMIC CAPACITOR	CKMYB151K50
	C452	ELECT. CAPACITOR	CEAS330M35
	C453	ELECT. CAPACITOR	CEAS470M50
	C454	ELECT. CAPACITOR	CEAS2R2M50
	C455	ELECT. CAPACITOR	CEAS102M6
	C456	ELECT. CAPACITOR	CEAS2R2M50
	C457	ELECT. CAPACITOR	CEAS330M35
	C458	CERAMIC CAPACITOR	CKMYB151K50
	C459	ELECT. CAPACITOR	CEAS222M35
	C460	AUDIO FILM CAPACITOR	CFTXA124J50
	C461	CERAMIC CAPACITOR	CKCYF473Z50
	C462	ELECT. CAPACITOR	CEAS221M50
	C463	CERAMIC CAPACITOR	CKCYF473Z50
	C464	ELECT. CAPACITOR	CEAS471M50
	C465	ELECT. CAPACITOR	CEAS222M35
	C466	AUDIO FILM CAPACITOR	CFTXA124J50
	C467	ELECT. CAPACITOR	CEAS221M50
	C468	CERAMIC CAPACITOR	CKCYF473Z50
	C469, 470	ELECT. CAPACITOR	CEAS010M50
	C472	CERAMIC CAPACITOR	CKCYF473Z50
	C485, 486	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
⚠	R785	CARBON FILM RESISTOR	RD1/4PMFL150J
	R817	CARBONFILM RESISTOR	RD1/2PM152J
⚠	R818	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R819	CARBON FILM RESISTOR	RD1/4PMFL2R2J
	R821	CARBONFILM RESISTOR	RD1/2PM152J
⚠	R823	CARBON FILM RESISTOR	RD1/4PMFL2R2J
⚠	R825	CARBON FILM RESISTOR	RD1/4PMFL100J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		2P PIN JACK	AKB1146
		SPEAKER TERMINAL 4-P	AKE1012

TUNER–VIDEO ASSEMBLY (AWV1261)

● VIDEO SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC253	REGULATOR IC	NJM7809FAS
	IC254	JUNGLE IC FOR NTSC	TA8801AN
	Q231	TRANSISTOR	2SC1740S
	Q232-234	TRANSISTOR	2SA933S
	Q235-237	TRANSISTOR	2SC1740S
	Q238-242	TRANSISTOR	2SA933S
	Q243-245	TRANSISTOR	2SC1740S
	Q246	TRANSISTOR	2SA933S
	Q247	TRANSISTOR	2SC1740S
	Q248, 249	TRANSISTOR	2SA933S
	Q250, 251	TRANSISTOR	2SC1740S
	Q252	TRANSISTOR	2SA933S
	Q253	TRANSISTOR	2SC1740S
	Q256, 257	TRANSISTOR	2SC1740S
	Q264, 265	TRANSISTOR	2SC1740S
	Q271-274	TRANSISTOR	2SC1740S
	Q275	TRANSISTOR	2SA933S
⚠	Q276-279	TRANSISTOR	2SC1740S
	Q280	TRANSISTOR	2SA933S
	Q281	TRANSISTOR	2SC1740S
	Q282	TRANSISTOR	2SA933S
	Q283	TRANSISTOR	2SC1740S
	Q284, 285	TRANSISTOR	2SA933S
	Q286	TRANSISTOR	2SC1740S
	Q288	TRANSISTOR	2SA933S
	Q289	TRANSISTOR	2SC1740S
	Q290	TRANSISTOR	2SA933S
	Q291-294	TRANSISTOR	2SC1740S
	Q297, 298	TRANSISTOR	2SA933S
	Q300	TRANSISTOR	2SA933S
	D231-235	ZENER DIODE	RD15ESB
	D236, 237	DIODE	1SS252
	D238	ZENER DIODE	RD15ESB
	D239, 240	DIODE	1SS252
	D241-243	ZENER DIODE	RD15ESB
	D251	ZENER DIODE	HZS11A1L
	D255-258	DIODE	1SS252
	D259	ZENER DIODE	RD15ESB
	D260-275	DIODE	1SS252
	D278-281	DIODE	1SS252
	D282-287	DIODE	11E2
	D288-290	DIODE	1SS252
	D291	ZENER DIODE	RD15ESB
	D292	DIODE	1SS252
	D297, 298	ZENER DIODE	RD15ESB
	D299	DIODE	1SS252
	D300	ZENER DIODE	RD15ESB

COILS

Mark	No.	Description	Part No.
	L254	AXIAL INDUCTOR	LAU680K
	L255	AXIAL INDUCTOR	LAU3R9K
	L256	AXIAL INDUCTOR	LAU1R8M
	L257	AXIAL INDUCTOR	LAU3R9K
	L260-262	AXIAL INDUCTOR	LAU4R7K
	L263	AXIAL INDUCTOR	LAU390K

CAPACITORS

Mark	No.	Description	Part No.
	C331	ELECT. CAPACITOR	CEAS2R2M50
	C332	ELECT. CAPACITOR	CEAS010M50
	C334	CERAMIC CAPACITOR	CCCSL121J50
	C335, 336	CERAMIC CAPACITOR	CKCYB391K50
	C341	ELECT. CAPACITOR	CEAS220M50
	C344	CERAMIC CAPACITOR	CKCYB562K50
	C345	ELECT. CAPACITOR	CEAS2R2M50
	C346	ELECT. CAPACITOR	CEAS471M10
	C347	ELECT. CAPACITOR	CEAS100M50
	C348	ELECT. CAPACITOR	CEAS010M50
	C349	ELECT. CAPACITOR	CEAS470M25
	C350	CERAMIC CAPACITOR	CKCYF473Z50
	C351	ELECT. CAPACITOR	CEANP4R7M50
	C352	ELECT. CAPACITOR	CEAS102M16
	C353	ELECT. CAPACITOR	CEAS010M50
	C354	ELECT. CAPACITOR	CEAS101M25
	C355	CERAMIC CAPACITOR	CKCYF473Z50
	C356	ELECT. CAPACITOR	CEAS101M10
	C357	CERAMIC CAPACITOR	CKCYF473Z50
	C358	ELECT. CAPACITOR	CEAS2R2M50
	C359	MYLAR FILM CAPACITOR	CQMA103K50
	C360	ELECT. CAPACITOR	CEAS2R2M50
	C361	AUDIO FILM CAPACITOR	CFTXA104J50
	C362	CERAMIC CAPACITOR	CKCYF103Z50
	C363	ELECT. CAPACITOR	CEAS2R2M50
	C364	CERAMIC CAPACITOR	CKCYF103Z50
	C365	AUDIO FILM CAPACITOR	CFTXA104J50
	C367	ELECT. CAPACITOR	CEAS010M50
	C368	MYLAR FILM CAPACITOR	CQMA124K50
	C370	MYLAR FILM CAPACITOR	CQMA223K50
	C371	CERAMIC CAPACITOR	CKCYF103Z50
	C372	ELECT. CAPACITOR	CEAS100M50
	C373	MYLAR FILM CAPACITOR	CQMA223K50
	C374	ELECT. CAPACITOR	CEAS100M50
	C375	ELECT. CAPACITOR	CEAS100M50
	C376	CERAMIC CAPACITOR	CKCYF103Z50
	C377	ELECT. CAPACITOR	CEAS100M50
	C379	CERAMIC CAPACITOR	CCCCH100D50
	C381	MYLAR FILM CAPACITOR	CQMA472K50
	C382	ELECT. CAPACITOR	CEAS2R2M50
	C384	MYLAR FILM CAPACITOR	CQMA183K50
	C385, 386	ELECT. CAPACITOR	CEAS101M25
	C387	CERAMIC CAPACITOR	CCCSL101J50
	C393	CERAMIC CAPACITOR	CCCSL221J50
	C396	CERAMIC CAPACITOR	CKCYB331K50
	C397	CERAMIC CAPACITOR	CCCSL121J50
	C398	CERAMIC CAPACITOR	CKCYB561K50
	C399-401	CERAMIC CAPACITOR	CCCSL151J50
	C402	ELECT. CAPACITOR	CEAS330M35
	C403	ELECT. CAPACITOR	CEAS101M25
	C405	CERAMIC CAPACITOR	CKCYF473Z50
	C406	CERAMIC CAPACITOR	CCCSL270J50
	C409	CERAMIC CAPACITOR	CCCSL220J50

RESISTORS

Mark	No.	Description	Part No.
	VR251	SEMI-FIXED (100Ω)	ACP1037
	VR252	SEMI-FIXED (220Ω)	ACP1038
	VR253	SEMI-FIXED (4.7kΩ)	ACP1042
⚠	R1556	CARBON FILM RESISTOR	RD1/4PMFL3R9J
⚠	R1561	METAL OXIDE RESISTOR	RS2LMF4R7J
⚠	R1577	METAL OXIDE RESISTOR	RS2LMF3R3J
⚠	R1677	RESISTOR	RD1/8PM561J
	R1694	CARBON FILM RESISTOR	RD1/2PM270J
	R1698, 1699	CARBON FILM RESISTOR	RD1/2PM100J
	R1715	CARBON FILM RESISTOR	RD1/2PM100J
	R1716, 1719	CARBONFILM RESISTOR	RD1/2PM271J
	R1720	CARBONFILM RESISTOR	RD1/2PM271J
	R1721, 1722	CARBON FILM RESISTOR	RD1/2PM100J
		OTHER RESISTORS	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Part No.
	DL253	DELAY LINE	ATN1013
	X251	CERAMIC RESONATOR (503kHz)	ASS1019
	X252	CRYSTAL RESONATOR (3.579545MHz)	ASS1020

● CONTROL SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC451	TV CONTROL MICROCOMPUTER	PD5186B
	IC452	EEPROM	X24C02P
	IC453	SYSTEM RESET IC	MC34064P
⚠	Q445, 446	TRANSISTOR	2SC1740S
⚠	Q450-453	TRANSISTOR	2SC1740S
⚠	Q454	TRANSISTOR	2SA933S
⚠	Q455	TRANSISTOR	2SC1740S
	Q456, 458	TRANSISTOR	XDC143ES
⚠	Q459	TRANSISTOR	2SC1740S
⚠	Q460	TRANSISTOR	2SA933S
⚠	Q461	TRANSISTOR	2SD438
⚠	Q462	TRANSISTOR	2SC1740S
	Q463	TRANSISTOR	2SC3732
	Q464-466	TRANSISTOR	XDC143ES
⚠	Q467-469	TRANSISTOR	2SC1740S
⚠	Q470	TRANSISTOR	2SA933S
⚠	Q472, 473	TRANSISTOR	2SC3732
⚠	Q486	TRANSISTOR	2SC1740S
⚠	Q487-492	TRANSISTOR	2SA933S
	Q493	TRANSISTOR	XDC143ES
⚠	Q495	TRANSISTOR	2SC1740S
	D401-404	ZENER DIODE	RD6.8ESB
	D405-410	ZENER DIODE	RD15ESB
	D411	ZENER DIODE	RD6.8ESB
	D413-419	ZENER DIODE	RD6.8ESB
	D423-429	ZENER DIODE	RD6.8ESB
	D450-454	DIODE	1SS252
	D455	ZENER DIODE	RD5.6ESB2
	D457-459	DIODE	1SS252
	D460	ZENER DIODE	RD5.1ESB2
	D461	DIODE	1SS252
	D463-467	DIODE	1SS252
	D469	ZENER DIODE	RD6.8ESB
	D471-478	DIODE	1SS252
	D480-483	ZENER DIODE	RD6.8ESB
	D486-488	ZENER DIODE	RD6.8ESB

COIL

Mark	No.	Description	Part No.
	L401	AXIAL INDUCTOR	LAU220K

CAPACITORS

Mark	No.	Description	Part No.
	TC401	CERAMIC TRIMMER (9.8p to 60p)	ACM-020
	C952	CERAMIC CAPACITOR	CKDYF473Z50
	C953	ELECT. CAPACITOR	CEAS010M50
	C954	CERAMIC CAPACITOR	CKCYB103K50
	C955	CERAMIC CAPACITOR	CKCYB222K50
	C956	ELECT. CAPACITOR	CEAS101M10
	C957	CERAMIC CAPACITOR	CKCYF473Z50
	C959	CERAMIC CAPACITOR	CKCYB103K50
	C960	CERAMIC CAPACITOR	CCCCH120J50
	C961	CERAMIC CAPACITOR	CCCCH150J50
	C962	CERAMIC CAPACITOR	CKCYF473Z50
	C963	ELECT. CAPACITOR	CEAS101M10
	C971-976	ELECT. CAPACITOR	CEAS010M50
	C977	CERAMIC CAPACITOR	CKCYB103K50
	C979	CERAMIC CAPACITOR	CCCSL150J50
	C980, 981	CERAMIC CAPACITOR	CCCSL330J50
	C982	ELECT. CAPACITOR	CEAS100M50
	C983	CERAMIC CAPACITOR	CKCYF473Z50
	C984	CERAMIC CAPACITOR	CKCYB103K50
	C985	ELECT. CAPACITOR	CEAS010M50
	C986	ELECT. CAPACITOR	CEAS0R1M50
	C987	ELECT. CAPACITOR	CEAS470M25
	C988	CERAMIC CAPACITOR	CKCYF473Z50
	C989	ELECT. CAPACITOR	CEAS470M25
	C990	CERAMIC CAPACITOR	CKCYB103K50
	C992	CERAMIC CAPACITOR	CKCYF473Z50
	C993	CERAMIC CAPACITOR	CCCSL151J50
	C995	MYLAR FILM CAPACITOR	CQMA562K50

RESISTORS

Mark	No.	Description	Part No.
	R579, 580	CARBON FILM RESISTOR	RD1/4PM221J
	R590	CARBON FILM RESISTOR	RD1/4PM471J
⚠	R591	CARBON FILM RESISTOR	RD1/4PMFL3R9J
	R594	METALFILM RESISTER	RN1/4PC4301F
	R595	METALFILM RESISTER	RN1/4PC4701F
	R608	METALFILM RESISTER	RN1/4PC2202F
⚠	R620	CARBON FILM RESISTOR	RD1/4PMFL3R9J
	R642	RESISTOR ARRAY	RA4T103J
	R645, 646	RESISTOR ARRAY (10kΩ)	RA8T103J
	R680	RESISTOR ARRAY (15kΩ)	RA8T153J
⚠	R687	CARBON FILM RESISTOR	RD1/4PMFL3R9J
		OTHER RESISTORS	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Part No.
	X451	CERAMIC OSCILLATOR (4.19MHz)	ASS1022

TUNER-VIDEO ASSEMBLY

● TUNER SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC351	OP-AMP IC	NJM4558LD
	IC352	US MPX DECODER IC	CXA1124AS
	Q353, 354	TRANSISTOR	2SC1740S
	Q355	TRANSISTOR	2SA933S
⚠	Q356	TRANSISTOR	2SD438
	Q361	TRANSISTOR	2SA933S
	Q363, 364	TRANSISTOR	2SC1740S
	Q365	TRANSISTOR	2SA933S
	Q366	TRANSISTOR	2SC1740S
	Q367, 368	TRANSISTOR	XDC124ES
	D351-360	DIODE	1SS252
	D361	ZENER DIODE	RD30ESB3
	D362	ZENER DIODE	RD5.6ESB2
	D363-372	DIODE	1SS252

COIL

Mark	No.	Description	Part No.
	L351	AXIAL INDUCTOR	LAU2R2J

CAPACITORS

Mark	No.	Description	Part No.
	C491-494	CERAMIC CAPACITOR	CCDSL101J50
	C495	CERAMIC CAPACITOR	CKDYB102K50
	C496	ELECT. CAPACITOR	CEAS102M16
	C497	CERAMIC CAPACITOR	CKDYF103Z50
	C498	ELECT. CAPACITOR	CEAS4R7M50
	C499	CERAMIC CAPACITOR	CKDYB471K50
	C500	MYLAR FILM CAPACITOR	CQMA563J50
	C501	ELECT. CAPACITOR	CEAS4R7M50
	C502	ELECT. CAPACITOR	CEASR47M50
	C503	MYLAR FILM CAPACITOR	CQMA562J50
	C504	MYLAR FILM CAPACITOR	CQMA123J50
	C505	ELECT. CAPACITOR	CEAS4R7M50
	C506	ELECT. CAPACITOR	CEANPR22M50
	C507	ELECT. CAPACITOR	CEAS470M25
	C508	CERAMIC CAPACITOR	CKDYF103Z50
	C509	MYLAR FILM CAPACITOR	CQMA272J50
	C510	ELECT. CAPACITOR	CEANP4R7M50
	C511	ELECT. CAPACITOR	CEAS100M50
	C512	CERAMIC CAPACITOR	CKCYB222K50
	C513	ELECT. CAPACITOR	CEJA2R2M50
	C514	ELECT. CAPACITOR	CEAS010M50
	C515	CERAMIC CAPACITOR	CKCYB222K50
	C516	ELECT. CAPACITOR	CEAS3R3M50
	C517	ELECT. CAPACITOR	CEAS2R2M50
	C518-520	ELECT. CAPACITOR	CEAS4R7M50
	C521	AUDIO FILM CAPACITOR	CFTXA473J50
	C522	ELECT. CAPACITOR	CEAS470M25
	C523	CERAMIC CAPACITOR	CKDYB102K50
	C524	MYLAR FILM CAPACITOR	CQMA103J50
	C525	CERAMIC CAPACITOR	CKCYX473M25
	C526, 527	ELECT. CAPACITOR	CEAS330M35
	C531	ELECT. CAPACITOR	CEAS2R2M50
	C533	ELECT. CAPACITOR	CEAS331M16
	C535, 536	MYLAR FILM CAPACITOR	CQMA104J50
	C539	ELECT. CAPACITOR	CEAS101M10

RESISTORS

Mark	No.	Description	Part No.
	VR351	SEMI-FIXED (10kΩ)	ACP1043
	VR352	SEMI-FIXED (4.7kΩ)	ACP1042
	VR353, 354	SEMI-FIXED (47kΩ)	ACP1045
⚠	R862	METAL OXIDE RESISTOR	RS2LMF560J
	R873	CARBON FILM RESISTOR	RD1/4PM471J
⚠	R876	CARBONFILM RESISTOR	RD1/2PMFL680J
	R885	METALFILM RESISTER	RN1/4PC1202F
	R900	METALFILM RESISTER	RN1/4PC7502F
	R901	METALFILM RESISTER	RN1/4PC8201F
	R928	METALFILM RESISTER	RN1/4PC6801F
	R929	METALFILM RESISTER	RN1/4PC3301F
	R933	METALFILM RESISTER	RN1/4PC4302F
	R939, 941	METALFILM RESISTER	RN1/4PC4702F
⚠	R951	CARBON FILM RESISTOR	RD1/2PMFL5R6J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		TV FRONT END & IF PACK	AXF1056

● AUDIO SECTION

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC302	AUDIO IC	LA4280-P
	IC303	E-VR IC	M5222L
	Q301, 302	TRANSISTOR	2SC1740S
	Q303, 304	TRANSISTOR	2SC3327
	Q305, 306	TRANSISTOR	2SC1740S
	Q307	TRANSISTOR	2SA933S
	Q308	TRANSISTOR	2SC1740S
	D302-304	DIODE	1SS252
	D305, 306	ZENER DIODE	RD6.8ESB
	D307-315	DIODE	1SS252
	D316	ZENER DIODE	RD5.1ESB
	D317-320	DIODE	1SS252
	D335-338	ZENER DIODE	RD15ESB
	D339	DIODE	1SS252
	D340	ZENER DIODE	RD5.1ESB2
	D341-344	DIODE	1SS252

COILS

Mark	No.	Description	Part No.
	L301, 302	COIL (1μH)	ATH-133

CAPACITORS

Mark	No.	Description	Part No.
	C431, 432	ELECT. CAPACITOR	CEAS100M50
	C433, 441	ELECT. CAPACITOR	CEAS470M25
	C444	ELECT. CAPACITOR	CEAS222M16
	C445, 446	CERAMIC CAPACITOR	CKMYB561K5
	C447	ELECT. CAPACITOR	CEAS470M25
	C448, 449	ELECT. CAPACITOR	CEAS2R2M50
	C450	ELECT. CAPACITOR	CEAS100M50
	C451	CERAMIC CAPACITOR	CKMYB151K5
	C452	ELECT. CAPACITOR	CEAS330M35
	C453	ELECT. CAPACITOR	CEAS470M50
	C454	ELECT. CAPACITOR	CEAS2R2M50
	C455	ELECT. CAPACITOR	CEAS102M6
	C456	ELECT. CAPACITOR	CEAS2R2M50
	C457	ELECT. CAPACITOR	CEAS330M35

Mark	No.	Description	Part No.
	C458	CERAMIC CAPACITOR	CKMYB151K50
	C460	AUDIO FILM CAPACITOR	CFTXA124J50
	C461	CERAMIC CAPACITOR	CKCYF473Z50
	C462	ELECT. CAPACITOR	CEAS221M50
	C463	CERAMIC CAPACITOR	CKCYF473Z50
	C464	ELECT. CAPACITOR	CEAS471M50
	C466	AUDIO FILM CAPACITOR	CFTXA124J50
	C467	ELECT. CAPACITOR	CEAS221M50
	C468, 472	CERAMIC CAPACITOR	CKCYF473Z50
	C480	CERAMIC CAPACITOR	CKCYF473Z50
	C481, 482	ELECT. CAPACITOR	CEAS102M35
	C485, 486	CERAMIC CAPACITOR	CKCYF473Z50

Mark	No.	Description	Part No.
RESISTORS			
⚠	R785	CARBON FILM RESISTOR	RD1/4PMFL150J
	R817	CARBONFILM RESISTOR	RD1/2PM152J
⚠	R818	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R819	CARBON FILM RESISTOR	RD1/4PMFL2R2J
	R821	CARBONFILM RESISTOR	RD1/2PM152J
⚠	R823	CARBON FILM RESISTOR	RD1/4PMFL2R2J
⚠	R825	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R838	METAL OXIDE RESISTOR	RS2LMF6R8J
		OTHER RESISTORS	RD1/8PM□□□J

TUNER–VIDEO ASSEMBLY (AWV1265)

AWV1265 and AWV1261 have the same construction except for the following :

CONTROL SECTION

Mark	Symbol & Description	Part No.		Remarks
		AWV1261	AWV1265	
	R594	RN1/4PC4301F	RN1/4PC2001F	
	R595	RN1/4PC4701F	RN1/4PC1002F	
	R658, 659	RD1/8PM222J	•••••	

TUNER, AUDIO and VIDEO SECTIONS

Although these sections are different in part number, they have the same service parts.

VIDEO INPUT ASSEMBLY (AWZ4183)

No.	Description	Part No.
SEMICONDUCTORS		
IC751	TV IC	PA0030
Q751	TRANSISTOR	2SC1740S
Q752-755	TRANSISTOR	2SA933S
Q758	TRANSISTOR	2SA933S
Q759	TRANSISTOR	2SC1740S
Q760	TRANSISTOR	2SA933S
Q761, 762	TRANSISTOR	2SC1740S
Q763, 764	TRANSISTOR	2SA933S
Q765-769	TRANSISTOR	2SC1740S
D751-753	DIODE	1SS252
COILS		
L751	AXIAL INDUCTOR	LAU150K
L755	AXIAL INDUCTOR	LAU680K
CAPACITORS		
C291	CERAMIC CAPACITOR	CKDYF103Z50
C292	ELECT. CAPACITOR	CEAS330M35
C293	ELECT. CAPACITOR	CEAS101M10
C294	CERAMIC CAPACITOR	CCCSL390J50
C295	CERAMIC CAPACITOR	CCCSL680J50
C296	ELECT. CAPACITOR	CEAS331M16
C312	ELECT. CAPACITOR	CEANP010M50
C315	CERAMIC CAPACITOR	CCDSL220J50
C316	ELECT. CAPACITOR	CEAS330M35
C320, 321	ELECT. CAPACITOR	CEAS330M35
C322	ELECT. CAPACITOR	CEAS101M25
C325	ELECT. CAPACITOR	CEAS330M35
C326	CERAMIC CAPACITOR	CCCSL180J50
C327	CERAMIC CAPACITOR	CCCSL101J50
C328	ELECT. CAPACITOR	CEAS010M50
C329	ELECT. CAPACITOR	CEAS330M35
C330	ELECT. CAPACITOR	CEAS101M25
RESISTORS		
	ALL RESISTORS	RD1/8PM□□□J
OTHERS		
DL752	DELAY LINE	ATN1004

VIDEO INPUT, R. CRT DRIVE, G. CRT DRIVE, B. CRT DRIVE AND MICROCOMPUTER ASSEMBLIES

VIDEO INPUT ASSEMBLY (AWZ4520)

AWZ4520 and AWZ4183 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4183	AWZ4520	
	R1456	RD1/8PM101J	RD1/8PM331J	
	DL751 Delay line	• • • • •	ATN1013	
	L751 Axial inductor	LAU150K	LAU390K	

R.CRT DRIVE ASSEMBLY (AWZ4179)

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	Q801	TRANSISTOR	2SC2611
	D801	DIODE	1SS252
	COILS		
	L801, 802	AXIAL INDUCTOR	LAU470K
	L803	AXIAL INDUCTOR	LAU101K
	CAPACITORS		
	C921	ELECT. CAPACITOR	CEAS101M10
	C922	CERAMIC CAPACITOR	CKCYB681K50
	C923	ELECTR. CAP. (4.7μ)	ACH-378
	C924	CERAMIC CAP. (1000p)	ACG1001
	RESISTORS		
	R751	CARBONFILM RESISTOR	RD1/8PM103J
	R752	RESISTOR (1kΩ, 1/2W)	ACN1006
⚠	R753, 754	METAL OXIDE RESISTOR	RS3LMF332J
	R755	RESISTOR (47Ω, 1/2W)	ACN-225
	OTHERS		
⚠		CRT SOCKET	AKG1004

G.CRT DRIVE ASSEMBLY (AWZ4180)

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	Q821	TRANSISTOR	2SC2611
	D821	DIODE	1SS252
	COILS		
	L821, 822	AXIAL INDUCTOR	LAU470K
	L823	AXIAL INDUCTOR	LAU101K
	CAPACITORS		
	C931	ELECT. CAPACITOR	CEAS101M10
	C932	CERAMIC CAPACITOR	CKCYB681K50
	C933	ELECTR. CAP. (4.7μ)	ACH-378
	C934	CERAMIC CAP. (1000p)	ACG1001
	RESISTORS		
	R761	CARBONFILM RESISTOR	RD1/8PM103J
	R762	RESISTOR(1kΩ, 1/2W)	ACN1006
⚠	R763, 764	METAL OXIDE RESISTOR	RS3LMF332J
	R765	RESISTOR(47Ω, 1/2W)	ACN-225
	OTHERS		
⚠		CRT SOCKET	AKG1004

B.CRT DRIVE ASSEMBLY (AWZ4181)

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	Q841	TRANSISTOR	2SC2611
	D841	DIODE	1SS252
	COILS		
	L841, 842	AXIAL INDUCTOR	LAU470K
	L843	AXIAL INDUCTOR	LAU101K
	CAPACITORS		
	C941	ELECT. CAPACITOR	CEAS101M10
	C942	CERAMIC CAPACITOR	CKCYB681K50
	C943	ELECTR. CAP. (4.7μ)	ACH-378
	C944	CERAMIC CAP. (1000p)	ACG1001
	RESISTORS		
	R771	CARBONFILM RESISTOR	RD1/8PM103J
	R772	RESISTOR(1kΩ, 1/2W)	ACN1006
⚠	R773, 774	METAL OXIDE RESISTOR	RS3LMF332J
	R775	RESISTOR(47Ω, 1/2W)	ACN-225
	OTHERS		
⚠		CRT SOCKET	AKG1004

MICROCOMPUTER ASSEMBLY (AWZ4231)

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	IC81	LOGIC IC	TC4066B
	Q81	TRANSISTOR	2SC1740S
	Q82-84	TRANSISTOR	2SA933S
	Q85	TRANSISTOR	2SC1740S
	Q86	TRANSISTOR	2SA933S
	Q87	TRANSISTOR	2SC1740S
	Q88	TRANSISTOR	2SA933S
	Q89	TRANSISTOR	2SC1740S
	D81-90	DIODE	1SS252
	CAPACITORS		
	C32	CERAMIC CAPACITOR	CKCYF473Z50
	C33	ELECT. CAPACITOR	CEAS010M50
	C34	ELECT. CAPACITOR	CEAS470M25
	C35, 36	ELECT. CAPACITOR	CEAS100M50
	C37	CERAMIC CAPACITOR	CKCYF473Z50
	C38	ELECT. CAPACITOR	CEAS100M50
	RESISTORS		
		ALL RESISTORS	RD1/8PM□□□J

W FRONT CONTROL, RECEIVER, FRONT CONTROL AND FRONT TERMINAL ASSEMBLIES

W FRONT CONTROL ASSEMBLY (AWZ4189)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC551	MICROCOMPUTER	PD5136
	D552	ZENER DIODE	RD3.0ESB
	D553, 554	DIODE	1SS252

SWITCHES

Mark	No.	Description	Part No.
	S551-566	TACT SWITCH	ASG1034

CAPACITORS

Mark	No.	Description	Part No.
	C61	AUDIO FILM CAPACITOR	CFTXA104J50
	C62, 63	CERAMIC CAPACITOR	CCCCH221J50
	C64	ELECT. CAPACITOR	CEAS2R2M50
	C65	CERAMIC CAPACITOR	CGMYX103M16
	C66	ELECT. CAPACITOR	CEAS101M10
	C67	CERAMIC CAPACITOR	CKDYB472K50

RESISTORS

Mark	No.	Description	Part No.
⚠	R1885	CARBON FILM RESISTOR	RD1/2PMF820J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X551	CERAMIC OSCILLATOR	ASS1043
		PIN JACK(1P)	AKB1055
		PIN JACK(1P)	AKB1056
		PIN JACK(1P)	AKB1057
		4P MINI DINSOCKET	AKP1081

RECEIVER ASSEMBLY (AWZ4190)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q551	TRANSISTOR	2SC1740S
	PC551	CdS	U5C-08SC
	D551	LED	AEL1011

CAPACITORS

Mark	No.	Description	Part No.
	C68	ELECT. CAPACITOR	CEJA330M25
	C69	CERAMIC CAPACITOR	CCMSL121J50
	C70	ELECT. CAPACITOR	CEJA100M35

RESISTORS

Mark	No.	Description	Part No.
	VR551	SEMI-FIXED (47kΩ)	ACP1045
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		DPO HOLDER	AMR2294
		REMOTE RECEIVER UNIT	AXX1010

FRONT CONTROL ASSEMBLY (AWZ4232)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC551	MICROCOMPUTER	PD5136
	PC551	CDS	U5C-08SC
	Q551	TRANSISTOR	2SC1740S
	D551	LED	AEL-459
	D552	ZENER DIODE	RD3.0ESB
	D553, 554	DIODE	1SS252

SWITCHES

Mark	No.	Description	Part No.
	S551-566	TACT SWITCH	ASG1034

CAPACITORS

Mark	No.	Description	Part No.
	C61	AUDIO FILM CAPACITOR	CFTXA104J50
	C62, 63	CERAMIC CAPACITOR	CCCCH221J50
	C64	ELECT. CAPACITOR	CEJA2R2M50
	C65	CERAMIC CAPACITOR	CGMYX103M16
	C67	CERAMIC CAPACITOR	CKDYB472K50
	C68	ELECT. CAPACITOR	CEJA330M25
	C70	ELECT. CAPACITOR	CEJA100M35

RESISTORS

Mark	No.	Description	Part No.
	VR551	SEMI-FIXED (47kΩ)	VRTB6VS473
⚠	R1885	CARBON FILM RESISTOR	RD1/2PMF820J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X551	CERAMIC OSCILLATOR	ASS1043

RECEIVER ASSEMBLY (AWZ4233)

CAPACITORS

Mark	No.	Description	Part No.
	C66	ELECT. CAPACITOR	CEJA101M6
	C69	CERAMIC CAPACITOR	CCMSL121J50

RESISTORS

Mark	No.	Description	Part No.
	R1896	CARBONFILM RESISTOR	RD1/8PM102J

OTHERS

Mark	No.	Description	Part No.
		REMOTE RECEIVER UNIT	AXX1010

FRONT TERMINAL ASSEMBLY (AWZ4234)

RESISTORS

Mark	No.	Description	Part No.
		ALL RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
		PHONO JACK 1-P	AKB-104
		PHONO JACK 1-P	AKB-105
		PHONO JACK 1-P	AKB-106
		4P MINI DIN SOCKET	AKP1016

FRONT CONTROL, RECEIVER AND POWER AMP ASSEMBLIES

FRONT CONTROL ASSEMBLY (AWZ4241)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC551	MICROCOMPUTER	PD5136
	D552	ZENER DIODE	RD3.0ESB
	D553, 554	DIODE	1SS252

SWITCHES

Mark	No.	Description	Part No.
	S551, 552	TACT SWITCH	ASG1034
	S555-559	TACT SWITCH	ASG1034
	S561-564	TACT SWITCH	ASG1034

CAPACITORS

Mark	No.	Description	Part No.
	C61	AUDIO FILM CAPACITOR	CFTXA104J50
	C62, 63	CERAMIC CAPACITOR	CCCCH221J50
	C64	ELECT. CAPACITOR	CEJA2R2M50
	C65	CERAMIC CAPACITOR	CGMYX103M16
	C66	ELECT. CAPACITOR	CEJA101M6
	C67	CERAMIC CAPACITOR	CKDYB472K50

RESISTORS

Mark	No.	Description	Part No.
		ALL RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	X551	CERAMIC OSCILLATOR	ASS1043

RECEIVER ASSEMBLY (AWZ4242)

SEMICONDUCTOR

Mark	No.	Description	Part No.
	D551	LED	AEL1011

CAPACITORS

Mark	No.	Description	Part No.
	C69	CERAMIC CAPACITOR	CCMSL121J50
	C70	ELECT. CAPACITOR	CEJA100M35

RESISTOR

Mark	No.	Description	Part No.
	R1896	CARBONFILM RESISTOR	RD1/8PM102J

OTHERS

Mark	No.	Description	Part No.
		REMOTE RECEIVER UNIT	AXX1010

POWER AMP ASSEMBLY (AWZ4193)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC501	LOGIC IC	XRU4066B
	IC502	AUDIO IC	TA7630P
	IC503	SOUND PROCESSOR IC	PA0049
	IC504	LOGIC IC	TC4094BP
⚠	IC505	AUDIO IC	LA4280-P
	IC506	OP-AMP IC	NJM4558LD
	Q501	TRANSISTOR	RN1203
	Q502	TRANSISTOR	2SA933S
	Q503	TRANSISTOR	RN1203
	Q504	TRANSISTOR	2SC1740S
	Q505	TRANSISTOR	RN1203
	Q506, 507	TRANSISTOR	2SC1740S
	Q509	TRANSISTOR	2SC2458
	Q511-513	TRANSISTOR	2SC2458
	Q514	TRANSISTOR	2SA933S
⚠	Q515, 516	TRANSISTOR	2SC3327
	Q517	TRANSISTOR	2SA933S
	Q518, 519	TRANSISTOR	2SC2458
	Q520, 521	TRANSISTOR	2SC1740S
⚠	Q524	TRANSISTOR	2SD1276A
⚠	D501, 502	ZENER DIODE	RD15ESB
	D503	DIODE	1SS252
⚠	D504-507	ZENER DIODE	RD15ESB
	D508, 509	DIODE	1SS252
⚠	D510, 511	ZENER DIODE	RD6.8ESB
	D512-521	DIODE	1SS252
	D522	DIODE	RBV402
⚠	D523, 524	ZENER DIODE	RD15ESB
	D525	DIODE	1SS252
⚠	D526, 527	ZENER DIODE	RD18ESB3
	D528-530	DIODE	1SS252
⚠	D531	ZENER DIODE	RD5.1ESB2

SWITCHES

Mark	No.	Description	Part No.
	S501, 502	SLIDE SWITCH	ASH1004
	S503	SLIDE SWITCH	ASH1001

COILS

Mark	No.	Description	Part No.
	L501, 502	COIL(1 μH)	ATH-133

CAPACITORS

Mark	No.	Description	Part No.
	C601, 602	ELECT. CAPACITOR	CEANP2R2M50
	C603	ELECT. CAPACITOR	CEAS470M25
	C604, 605	CERAMIC CAPACITOR	CKCYB562K50
	C606	CERAMIC CAPACITOR	CKCYF473Z50
	C607, 608	AUDIO FILM CAPACITOR	CFTXA124J50
	C609	ELECT. CAPACITOR	CEAS470M25
	C610, 611	ELECT. CAPACITOR	CEAS100M50
	C612	ELECT. CAPACITOR	CEAS470M25
	C613	CERAMIC CAPACITOR	CKCYF473Z50
	C614	ELECT. CAPACITOR	CEAS010M50
	C615, 616	ELECT. CAPACITOR	CEAS102M16
	C617	CERAMIC CAPACITOR	CKCYF473Z50
	C618	ELECT. CAPACITOR	CEAS2R2M50
	C619	ELECT. CAPACITOR	CEANP2R2M50
	C620	ELECT. CAPACITOR	CEAS222M16

POWER AMP, EXT. SP ASSEMBLIES AND DOL. PRO. MOD.

Mark	No.	Description	Part No.
	C621	ELECT. CAPACITOR	CEAS2R2M50
	C622	ELECT. CAPACITOR	CEANP2R2M50
	C623	CERAMIC CAPACITOR	CKCYF473Z50
	C624	ELECT. CAPACITOR	CEANPR47M50
	C625, 626	MYLAR FILM CAPACITOR	CQMA102K50
	C627	ELECT. CAPACITOR	CEAS470M25
	C628	ELECT. CAPACITOR	CEAS101M10
	C629, 630	CERAMIC CAPACITOR	CKMYB561K50
	C631	CERAMIC CAPACITOR	CKCYF473Z50
	C632	AUDIO FILM CAPACITOR	CFTXA103J50
	C633	AUDIO FILM CAPACITOR	CFTXA474J50
	C634, 635	ELECT. CAPACITOR	CEAS4R7M50
	C636	ELECT. CAPACITOR	CEAS6R8M50
	C637	AUDIO FILM CAPACITOR	CFTXA104J50
	C638	ELECT. CAPACITOR	CEAS4R7M50
	C639	AUDIO FILM CAPACITOR	CFTXA223J50
	C640	AUDIO FILM CAPACITOR	CFTXA474J50
	C641	AUDIO FILM CAPACITOR	CFTXA223J50
	C642	AUDIO FILM CAPACITOR	CFTXA224J50
	C643	MYLAR FILM CAPACITOR	CQMA562K50
	C644	MYLAR FILM CAPACITOR	CQMA563J50
	C645	MYLAR FILM CAPACITOR	CQMA152K50
	C646	AUDIO FILM CAPACITOR	CFTXA123J50
	C647, 648	ELECT. CAPACITOR	CEASR47M50
	C649	ELECT. CAPACITOR	CEAS220M50
	C650	AUDIO FILM CAPACITOR	CFTXA123J50
	C651	AUDIO FILM CAPACITOR	CFTXA104J50
	C652	MYLAR FILM CAPACITOR	CQMA272K50
	C653	AUDIO FILM CAPACITOR	CFTXA273J50
	C654	PL. STYRENE CAPACITOR	CQSA681J50
	C655	MYLAR FILM CAPACITOR	CQMA682K50
	C656	ELECT. CAPACITOR	CEAS470M50
	C657, 658	ELECT. CAPACITOR	CEANL2R2M50
	C659	CERAMIC CAPACITOR	CCCSL151J50
	C660	ELECT. CAPACITOR	CEAS330M35
	C661, 662	ELECT. CAPACITOR	CEAS2R2M50
	C663	ELECT. CAPACITOR	CEAS330M35
	C664	CERAMIC CAPACITOR	CCCSL151J50
	C665, 666	CERAMIC CAPACITOR	CKCYF473Z50
	C667	MYLAR FILM CAPACITOR	CQMA124K50
	C668, 669	CERAMIC CAPACITOR	CKCYF473Z50
	C670	ELECT. CAPACITOR	CEAS221M50
	C671	ELECT. CAPACITOR	CEAS100M50
	C672	CERAMIC CAPACITOR	CKCYF473Z50
	C673	ELECT. CAPACITOR	CEAS221M50
	C674	CERAMIC CAPACITOR	CKCYF473Z50
	C676	MYLAR FILM CAPACITOR	CQMA124K50
	C677	CERAMIC CAPACITOR	CKCYF473Z50
	C678	ELECT. CAPACITOR	CEAS330M35
	C679	ELECT. CAPACITOR	CEAS102M6
	C680, 681	ELECT. CAPACITOR	CEAS222M35
	C682	ELECT. CAPACITOR	CEAS222M50
	C683, 684	ELECT. CAPACITOR	CEAS2R2M50
	C685	ELECT. CAPACITOR	CEAS222M50
	C686	ELECT. CAPACITOR	CEAS220M50
	C687	ELECT. CAPACITOR	CEAS100M50

RESISTORS

Mark	No.	Description	Part No.
⚠	R1781	CARBONFILM RESISTOR	RD1/2PMFL3R9J
⚠	R1839, 1843	CARBON FILM RESISTOR	RD1/4PMFL2R2J
⚠	R1846, 1847	CARBON FILM RESISTOR	RD1/4PMFL100J
	R1850, 1851	CARBONFILM RESISTOR	RD1/2PM471J
⚠	R1858	CARBON FILM RESISTOR	RD1/2PMFL561J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
⚠	FU501	FUSE (3.15A/125V)	AEK1017
		PIN JACK (2P)	AKB1126

EXT. SP ASSEMBLY (AWZ4194)

OTHERS

Mark	No.	Description	Part No.
		SPEAKER TERMINAL 4-P	AKE1019
		SPEAKER TERMINAL 2-P	AKE1032

DOL. PRO. MOD. (AXQ1009)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1901	DOLBY PROLOGIC IC	LA2780
	IC1902	DOLBY SURROUND IC	LV1001M-A
	IC1903	64k DRAM IC	LM3364K-15
	IC1904, 1905	OP-AMP IC .	NJM4558M-D
	IC1906	PORT-EXPANDER IC	M66320FP
	Q1901	TRANSISTOR	DTA143EK
	Q1902	DIGITAL TRANSISTOR	DTC143EK
	Q1903	TRANSISTOR	2SD438
	D1901-1905	DIODE	1SS226

CAPACITORS

Mark	No.	Description	Part No.
	C1901	ELECT. CAPACITOR	CEAS470M25
	C1902	ELECT. CAPACITOR	CEAS101M10
	C1903, 1904	ELECT. CAPACITOR	CEAS100M50
	C1905	ELECTROLYTIC CAPACIT	CEYAR33M50
	C1906	CHIP CAPACITOR	CCSQCH681J50
	C1907, 1908	AUDIO FILM CAPACITOR	CFTXA104J50
	C1909, 1910	ELECTROLYTIC CAPACIT	CEYA2R2M50
	C1911	ELECT. CAPACITOR	CEASR15M50
	C1912	ELECTROLYTIC CAPACIT	CEYA3R3M50
	C1913, 1914	AUDIO FILM CAPACITOR	CFTXA154J50
	C1915	ELECTROLYTIC CAPACIT	CEYA3R3M50
	C1916	ELECT. CAPACITOR	CEASR15M50
	C1917, 1918	ELECTROLYTIC CAPACIT	CEYA2R2M50
	C1919	AUDIO FILM CAPACITOR	CFTXA473J50
	C1920	AUDIO FILM CAPACITOR	CFTXA104J50
	C1921	AUDIO FILM CAPADITOR	CFTXA334J50
	C1922	CHIP CAPACITOR	CCSQCH681J50
	C1923, 1924	AUDIO FILM CAPACITOR	CFTXA104J50
	C1925	ELECTROLYTIC CAPACIT	CEYAR33M50
	C1926, 1927	ELECT. CAPACITOR	CEAS100M50

Mark	No.	Description	Part No.
	C1928, 1929	ELECT. CAPACITOR	CEAS220M16
	C1930, 1931	ELECT. CAPACITOR	CEAS2R2M50
	C1932	AUDIO FILM CAPACITOR	CFTXA153J50
	C1933	AUDIO FILM CAPACITOR	CFTXA103J50
	C1934	CHIP CAPACITOR	CCSQCH681J50
	C1935	AUDIO FILM CAPACITOR	CFTXA104J50
	C1936	ELECT. CAPACITOR	CEAS471M16
	C1937	ELECT. CAPACITOR	CEAS4R7M50
	C1938	CHIP CAPACITOR	CCSCH102J50
	C1939	AUDIO FILM CAPACITOR	CFTXA223J50
	C1940	CHIP CAPACITOR	CCSQCH151J50
	C1941-1943	ELECT. CAPACITOR	CEAS221M16
	C1944	CERAMIC CAPACITOR	CKSQYF104Z50
	C1945	ELECT. CAPACITOR	CEASR22M50
	C1946	AUDIO FILM CAPACITOR	CFTXA683J50
	C1947	MYLAR FILM CAPACITOR	CQMA392J50
	C1948	MYLAR FILM CAPACITOR	CQMA472J50
	C1949	AUDIO FILM CAPACITOR	CFTXA333J50
	C1950	ELECT. CAPACITOR	CEANP100M35
	C1951	ELECT. CAPACITOR	CEAS010M50
	C1952	ELECT. CAPACITOR	CEAS100M50
	C1953	CHIP CERAMIC C.	CCSQCH471J50
	C1954	MYLAR FILM CAPACITOR	CQMA562J50
	C1955	MYLAR FILM CAPACITOR	CQMA682J50
	C1956	ELECT. CAPACITOR	CEANPR33M50
	C1957, 1958	ELECT. CAPACITOR	CEAS100M50
	C1959	CHIP CAPACITOR	CCSQCH681J50
	C1960	ELECT. CAPACITOR	CEAS100M50
	C1961	AUDIO FILM CAPACITOR	CFTXA154J50
	C1962	CHIP CAPACITOR	CCSQCH151J50
	C1963	AUDIO FILM CAPACITOR	CFTXA223J50
	C1964	CHIP CAPACITOR	CCSCH102J50
	C1965	ELECT. CAPACITOR	CEAS4R7M50
	C1966	CERAMIC CAPACITOR	CKSQYF104Z50
	C1967	CERAMIC CAPACITOR	CKSQYB103K50
	C1968	ELECT. CAPACITOR	CEAS221M10
	C1970	CERAMIC CAPACITOR	CKSQYB562K50
	C1971-1973	CHIP CAPACITOR	CCSQCH101J50

RESISTORS

Mark	No.	Description	Part No.
	VR1901	SEMI-FIXED (47kΩ)	ACP1045
		OTHER RESISTORS	RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN1901	15P SOCKET	KP200IA15L
	CN1902	7P SOCKET	KP200IA7L
	X1901	CRYSTAL RESONATOR (8.00MHz)	ASS1015

CONVERGENCE ASSEMBLY (AWZ4178)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC601, 602	DIGITAL CONVER IC	PA0053A
	IC603, 604	DAC FOR CONVER ADJ	PM0002A
⚠	IC606	TV HIC	STK4277-SL
	IC607	REGULATOR IC	NJM78M05FAS
	IC608	REGULATOR IC	NJM79M05FA
	IC651-653	OP AMP	M5238LF
	Q601, 602	TRANSISTOR	2SA933S
	Q603	TRANSISTOR	2SC1740S
	D603	DIODE	1SS252
	D604	ZENER DIODE	RD4.7ESB2
	D605	DIODE	1SS252
	D606, 607	ZENER DIODE	RD12ESB
	D609, 610	DIODE	1SS252
	D611-638	ZENER DIODE	RD12ESB
	D639-643	DIODE	1SS252
	D644-653	ZENER DIODE	RD12ESB

CAPACITORS

Mark	No.	Description	Part No.
	C691	ELECT. CAPACITOR	CEAS100M50
	C692	ELECT. CAPACITOR	CEAS010M50
	C693	CERAMIC CAPACITOR	CKCYF103Z50
	C694	MYLAR FILM CAPACITOR	CQMA392J50
	C695	CERAMIC CAPACITOR	CKCYF473Z50
	C696, 697	ELECT. CAPACITOR	CEHAQ330M35
	C698-700	ELECT. CAPACITOR	CEAS331M6
	C701	CERAMIC CAPACITOR	CKCYF473Z50
	C702	ELECT. CAPLACIOR	CEHAQ010M50
	C703	CERAMIC CAPACITOR	CKDYF473Z50
	C704, 705	CERAMIC CAPACITOR	CKCYF473Z50
	C706	ELECT. CAPACITOR	CEHAQ010M50
	C707	ELECT. CAPACITOR	CEAS331M6
	C708	CERAMIC CAPACITOR	CKCYF473Z50
	C709	MYLAR FILM CAPACITOR	CQMA102J50
	C710, 711	CERAMIC CAPACITOR	CKCYF473Z50
	C712	ELECT. CAPACITOR	CEAS101M10
	C713	CERAMIC CAPACITOR	CKCYF473Z50
	C714	ELECT. CAPACITOR	CEAS100M50
	C715	CERAMIC CAPACITOR	CKCYF473Z50
	C716	MYLAR FILM CAPACITOR	CQMA471J50
	C717-719	ELECT. CAPACITOR	CEAS010M50
	C720	ELECT. CAPACITOR	CEASR47M50
	C721	MYLAR FILM CAPACITOR	CQMA471J50
	C722	ELECT. CAPACITOR	CEAS101M10
	C723, 724	CERAMIC CAPACITOR	CCMSL101J50
	C725	MYLAR FILM CAPACITOR	CQMA272J50
	C726-728	ELECT. CAPACITOR	CEAS331M6
	C729	MYLAR FILM CAPACITOR	CQMA224J50
	C730-733	CERAMIC CAPACITOR	CKCYF473Z50
	C734	ELECT. CAPACITOR	CEAS331M6
	C735, 736	CERAMIC CAPACITOR	CKCYF473Z50
	C737	MYLAR FILM CAPACITOR	CQMA224J50
	C738	ELECT. CAPACITOR	CEAS010M50
	C739, 740	ELECT. CAPACITOR	CEAS330M35

Mark	No.	Description	Part No.
	C741	ELECT. CAPACITOR	CEAS470M25
	C742	ELECT. CAPACITOR	CEAS4R7M50
	C743	MYLAR FILM CAPACITOR	CQMA104J50
	C744	ELECT. CAPACITOR	CEAS100M50
	C745, 746	ELECT. CAPACITOR	CEHAQ471M35
	C747, 748	CERAMIC CAPACITOR	CKCYF473Z50
	C749, 750	CERAMIC CAPACITOR	CCMSL101J50
	C751, 752	ELECT. CAPACITOR	CEAS221M10
	C753	ELECT. CAPACITOR	CEAS101M10
	C754	CERAMIC CAPACITOR	CKCYF473Z50
	C755	CERAMIC CAPACITOR	CCMSL470J50
	C756	ELECT. CAPACITOR	CEAS101M10
	C757-759	CERAMIC CAPACITOR	CKCYF473Z50
	C760	CERAMIC CAPACITOR	CKDYF473Z50
	C761	CERAMIC CAPACITOR	CKCYF473Z50
	C762, 763	ELECT. CAPACITOR	CEAS101M10
	C764	ELECT. CAPACITOR	CEAS102M6

RESISTORS

Mark	No.	Description	Part No.
	VR651-654	SEMI-FIXED (4.7kΩ)	ACP1042
	VR655	SEMI-FIXED (47kΩ)	ACP1045
	VR656	SEMI-FIXED (220kΩ)	ACP1047
	R391, 392	RESISTOR(47Ω, 5W)	RT5PD470K
⚠	R397, 404	RESISTOR(4.7Ω, 7W)	RT7PD4R7K
⚠	R454	CARBON FILM RESISTOR	RD1/4PMF270J
⚠	R555-559	METAL OXIDE RESISTOR	RS3LMF6R8J
		OTHER RESISTORS	RD1/8PM□□□J

☆ POWER SUPPLY ASSEMBLY (AWV1281)

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC101, 102	PHOTOCOUPLER	ON3161-Q
	Q101	TRANSISTOR	2SA933S
	Q102-104	TRANSISTOR	2SC1740S
⚠	Q105	TRANSISTOR	2SC3451(D)
⚠	Q106	TRANSISTOR	2SB824
	Q107	TRANSISTOR	2SC1740S
	Q108	TRANSISTOR	2SC2705
⚠	Q109	TRANSISTOR	2SD1276A
	Q110	TRANSISTOR	2SA933S
⚠	Q111	TRANSISTOR	2SD1276A
	Q112	TRANSISTOR	2SC1740S
	Q151-153	TRANSISTOR	2SC1740S
⚠	Q157	TRANSISTOR	2SC4256(E)
	Q158	TRANSISTOR	2SC1740S
	Q165	TRANSISTOR	2SA933S
	Q166	TRANSISTOR	2SC1740S
× NSP	Q167	TRANSISTOR	
	Q168	TRANSISTOR	2SA933S
	Q169	TRANSISTOR	2SA1145
× NSP	Q170	TRANSISTOR	
⚠	Q171	TRANSISTOR	2SD1276A
	Q172	TRANSISTOR	2SA1145
	Q173	TRANSISTOR	2SC1740S
⚠	Q174	TRANSISTOR	2SD1276A
⚠	Q175	TRANSISTOR	2SC3332
	Q176	TRANSISTOR	2SC2705
⚠	Q177	TRANSISTOR	2SC4747
	Q186	TRANSISTOR	2SA1237
	Q187, 188	TRANSISTOR	2SC1740S
	Q189	TRANSISTOR	2SC1845
	Q190	TRANSISTOR	2SD1276A
	Q191	TRANSISTOR	2SB950A
⚠	D101	DIODE	RB604(A)
	D102, 103	DIODE	1SS145
	D104	ZENER DIODE	HZS6B1L
	D105, 106	DIODE	1SS145
	D107-113	DIODE	1SS252
⚠	D114	DIODE	11DF1FD
	D115	DIODE	1SS252
⚠	D116	DIODE	11DF1FD
	D117-119	DIODE	1SS252
	D120	ZENER DIODE	HZS6C2L
	D121	DIODE	1SS252
⚠	D122	DIODE	RL2Z
	D123	DIODE	FMP-G12S
⚠	D124, 125	DIODE	RL4Z(A)
⚠	D126	DIODE	RG4A(A)
	D127	ZENER DIODE	HZS6A1L
	D128	ZENER DIODE	HZS6B1L
	D129	ZENER DIODE	HZS18-1L
	D130	ZENER DIODE	HZS6B1L

POWER SUPPLY ASSEMBLY

Mark	No.	Description	Part No.
	D151, 152	DIODE	1SS252
	D155-157	DIODE	1SS252
⚠×NSP	D158	ZENER DIODE	
	D159-161	DIODE	1SS252
	D163	DIODE	1SS252
	D165-167	DIODE	1SS252
⚠	D168	DIODE	11DF2FD
⚠	D169	DIODE	RG4A(A)
⚠	D170	DIODE	CTU-G2DR
⚠	D171	DIODE	ES1F
⚠	D172	DIODE	RU1
⚠	D173	ZENER DIODE	RD39ESB4
⚠	D174	DIODE	ES1F
	D175-177	DIODE	1SS252
⚠	D178	DIODE	ES1F
	D181-185	DIODE	1SS252
	D187	DIODE	1SS252
× NSP	D188	ZENER DIODE	

TRANSFORMERS AND COILS

⚠	T101	POWER TRANSFORMER	ATT1194
⚠	T102	CONVERTER TRANS	ATK1064
⚠×NSP	T151	CONVERTER TRANS	
⚠	T152	H. DRIVE TRANSFORMER	ATK1045
⚠	L101, 102	LINE FILTER	ATF1031
	L103	COIL (1μH)	ATH-133
	L104-109	FERRITE BEAD	ATX-028
	L151	COIL	ATL1085
	L153	COIL	ATL1089
	L154	INDUCTOR	LTA272J

RELAYS

⚠	RY101	RELAY	ASR1036
⚠	RY102	RELAY	ASR1027

CAPACITORS

⚠	C101, 102	FILM CAP. (0.1μ/250V)	ACE-507
	C103	ELECT. CAPACITOR	CEAS102M25
	C104	CERAMIC CAPACITOR	CKCYF103Z50
⚠	C105, 106	FILM CAP. (6800p/250V)	ACE1009
	C107	ELECT. CAPACITOR	CEAS470M25
⚠	C108, 109	FLM CAP. (6800P/250V)	ACE1009
⚠	C110, 111	CKA (0.01/AC250V)	ACG-501
	C112	ELECT. CAPACITOR	CEAS100M50
⚠	C113, 114	CKA (0.01/AC250V)	ACG-501
	C115	ELECT. CAPACITOR	CEAS470M25
⚠	C116	ELECTR. CAP. (470μ/200V)	ACH1147
⚠	C117	ELECTR. CAP. (820μ/200V)	ACH1148
	C118	CKA (1000p/2KV)	ACG-040
	C119	ELECTR. CAP. (4.7μ/250V)	ACH-378
	C120	CERAMIC CAPACITOR	CCCSL221K500
	C121	AUDIO FILM CAPACITOR	CFTXA474J50
	C122	ELECTR. CAP. (47μ)	ACH1132
	C123	CERAMIC CAPACITOR	CCCSL221K500
	C124	CKA (1000P/2kV)	ACG-040
	C125	CERAMIC CAPACITOR	CKCYF103Z50
	C126	CER. CAP. (3300p/2kV)	ACG1008
	C127	MYLAR FILM CAPACITOR	CQMA123J50
	C128	ELECT. CAPACITOR	CEAS010M50
	C129	ELECT. CAPACITOR	CEHAQ471M16
	C130-132	CERAMIC CAPACITOR	CCCSL221K500
	C133	CCA (100p/2kV)	ACG-032
	C134	ELECT. CAPACITOR	CEHAQ332M35
	C135	ELECT. CAPACITOR	CEHAQ222M35
	C136	ELECTR. CAP. (560μ/160V)	ACH1146
	C137	ELECT. CAPACITOR	CEHAQ222M50
	C138	ELECT. CAPACITOR	CEHAQ222M35
	C139	CERAMIC CAPACITOR	CKDYF103Z500
	C140, 141	CERAMIC CAPACITOR	CKCYF473Z50
	C142	ELECT. CAPACITOR	CEAS331M35
	C143	CERAMIC CAPACITOR	CKDYF103Z500
	C144	CERAMIC CAPACITOR	CKCYF473Z50
	C145, 146	ELECT. CAPACITOR	CEHAQ100M50
	C147	CERAMIC CAPACITOR	CKCYB681K50
	C148	ELECT. CAPLACIOR	CEHAQ010M50
	C149	ELECT. CAPACITOR	CEHAQ100M50
	C150	ELECT. CAPACITOR	CEHAQ221M25
	C151	CERAMIC CAPACITOR	CKCYF473Z50
	C201	CERAMIC CAPACITOR	CKCYB103K50
	C202	CAPACITOR	CFPHW472H3D
	C203	MYLAR FILM CAPACITOR	CQMA104J50
	C207	ELECT. CAPLACIOR	CEHAQ010M50
	C208	CERAMIC CAPACITOR	CQMA683J50
	C209	CERAMIC CAPACITOR	CKCYF472Z500
	C210	MYLAR FILM CAPACITOR	CQMA333J50
	C211	CERAMIC CAPACITOR	CKCYF473Z50
	C213	MYLAR FILM CAPACITOR	CQMA223J50
	C214	ELECT. CAPACITOR	CEHAQ100M50
	C215	ELECT. CAPACITOR	CEHAQ221M25
	C216	ELECT. CAPACITOR	CEHAQ221M10
	C218	ELECT. CAPACITOR	CEHAQ331M16
	C219	CERAMIC CAPACITOR	CKCYF103Z50
	C220	CERAMIC CAPACITOR	CCCSL101K500
	C221	MYLAR FILM CAPACITOR	CQMA103J50
	C223	ELECT. CAPACITOR	CEHAQ100M50
	C224	ELECT. CAPACITOR	CEHAQ100M2C
	C225	ELECT. CAPACITOR	CEHAQ101M25
	C226	ELECT. CAPACITOR	CEHAQ221M10
	C227	CERAMIC CAPACITOR	CCCSL101K500
	C228	CERAMIC CAPACITOR	CKCYB222K500
	C229	CERAMIC CAPACITOR	CCCSL101K500
	C230	CERAMIC CAPACITOR	CKCYB102K500
	C231	ELECT. CAPLACIOR	CEHAQ010M50
	C232	ELE. CAP. (10μ/160V)	ACH1117
	C233	CERAMIC CAPACITOR	CKCYB102K50
	C234	CER. CAP. (680p/2kV)	ACG1024
	C235	ELECT. CAPACITOR	CEHAQ220M2C
	C236	ELECT. CAPACITOR	CEHAQ100M50
	C237	M. P. P. CAPACITOR	CFPHW153H3A
	C238	CAPACITOR	CFPHW123H3D
	C239	CAPACITOR	CFPMW824J2D
	C240	CERAMIC CAPACITOR	CKCYX104M16
⚠	C241	CAPACITOR	CFPMW105J2D
	C242	CERAMIC CAPACITOR	CKCYF473Z50
	C243	CERAMIC CAPACITOR	CKCYB182K500
	C244	ELECT. CAPACITOR	CEHAQ220M50
	C245, 246	CERAMIC CAP. (470p/2kV)	ACG1014

Mark	No.	Description	Part No.
	C247	ELECT. CAPACITOR	CEAS4R7M50
	C248	CERAMIC CAPACITOR	CKCYF472Z500
	C249, 250	CERAMIC CAP. (470p/2kV)	ACG1014
	C251	ELECT. CAPACITOR	CEHAQ100M50
	C252	CERAMIC CAPACITOR	CCCSL151J50
	C253, 254	ELECT. CAPACITOR	CEHAQ471M35
	C255	ELECT. CAPACITOR	CEHAQ100M50
	C257	CERAMIC CAPACITOR	CKCYB122K50
	C258	CERAMIC CAPACITOR	CKCYB152K50
	C259	CERAMIC CAPACITOR	CCCSL151J50
	C260	CERAMIC CAPACITOR	CKCYB681K50
	C261	CERAMIC CAPACITOR	CKCYB331K50
	C262	ELECT. CAPACITOR	CEHAQ101M10

RESISTORS

Mark	No.	Description	Part No.
	VR101	SEMI-FIXED (1kΩ)	VRTS6VS102
× NSP	VR151	SEMI-FIXED	
× NSP	VR152	SEMI-FIXED	
	VR154	SEMI-FIXED (22kΩ)	VRTS6VS223
	VR181	SEMI-FIXED (470Ω)	VRTS6VS471
⚠	R102, 103	RESISTOR(2.2MΩ, 1/2W)	ACN-208
⚠	R111, 113	RESISTOR (1.0Ω, 5W)	ACN1032
⚠	R117	METAL OXIDE RESISTOR	RS1LMF473J
⚠	R120, 121	METAL OXIDE RESISTOR	RS2LMFR33J
⚠	R122	CARBON FILM RESISTOR	RD1/4PMFL101J
	R123	RESISTOR(6.8Ω, 10W)	RT10PD6R8K
⚠	R124	METAL OXIDE RESISTOR	RS3LMF2R2J
⚠	R125	CARBON FILM RESISTOR	RD1/4PMFL682J
⚠	R126	METAL OXIDE RESISTOR	RS3LMF2R2J
	R127	CARBONFILM RESISTOR	RD1/2PM241J
	R129	CARBONFILM RESISTOR	RD1/2PM241J
	R131	CARBONFILM RESISTOR	RD1/2PM101J
	R132	METALFILM RESISTER	RN1/4PC3601F
	R133	METALFILM RESISTER	RN1/4PC1603F
	R134	CARBONFILM RESISTOR	RD1/8PM104J
	R135	METALFILM RESISTER	RN1/4PC1603F
	R136, 137	RESISTOR(18Ω, 10W)	RT10PD180K
⚠	R142	METAL OXIDE RESISTOR	RS2LMF223J
⚠	R143	METAL OXIDE RESISTOR	RS1LMF272J
⚠	R144	RESISTOR (1.0Ω, 5W)	ACN1032
	R155	METALFILM RESISTER	RN1/4PC2101F
	R156	METALFILM RESISTER	RN1/4PC2431F
⚠	R157	METAL OXIDE RESISTOR	RS1LMF100J
⚠	R158	METAL OXIDE RESISTOR	RS3LMF101J
	R159	METAL OXIDE RESISTOR	RS2LMF4R7J
	R202	RESISTOR(82Ω, 5W)	RT5PD820K
⚠	R203	METAL OXIDE RESISTOR	RS2LMF153J
	R204	CARBONFILM RESISTOR	RD1/2PM122J
⚠	R205	CARBON FILM RESISTOR	RD1/2PMFL562J
	R207	RESISTOR(47Ω, 1/2W)	ACN-225
	R208	SOLID RESISTOR (33kΩ, 1/2W)	ACN1011
⚠	R215	METAL OXIDE RESISTOR	RS2LMF153J
⚠	R216, 217	METAL OXIDE RESISTOR	RS3LMF393J
⚠	R221	METAL OXIDE RESISTOR	RS2LMF153J
× NSP	R235	METALFILM RESISTER	
× NSP	R237	CARBONFILM RESISTOR	
⚠	R238	CARBON FILM RESISTOR	RD1/4PMFL3R9J
× NSP	R250	CARBONFILM RESISTOR	
× NSP	R255	CARBONFILM RESISTOR	
× NSP	R264	CARBONFILM RESISTOR	
× NSP	R268	CARBONFILM RESISTOR	
⚠	R271	CARBON FILM RESISTOR	RD1/4PMFL3R9J
⚠	R273	CARBON FILM RESISTOR	RD1/4PMFL3R9J
× NSP	R274	CARBONFILM RESISTOR	
	R276	RESISTOR(82Ω, 5W)	RT5PD820K
× NSP	R278	CARBONFILM RESISTOR	
⚠	R280	CARBON FILM RESISTOR	RD1/4PMFL470J
⚠	R281	CARBON FILM RESISTOR	RD1/2PMFL222J
	R285	CARBON FILM RESISTOR	RD1/2PM361J
⚠	R287	METAL OXIDE RESISTOR	RS3LMF682J
⚠	R288	CARBON FILM RESISTOR	RD1/4PMFL471J
× NSP	R290	CARBONFILM RESISTOR	
⚠×NSP	R291	METAL OXIDE RESISTOR	
⚠	R292	RESISTOR (1.0Ω, 5W)	ACN1032
⚠	R293	CARBON FILM RESISTOR	RD1/4PMFL470J
⚠	R294	METAL OXIDE RESISTOR	RS1LMF220J
⚠	R295	CARBON FILM RESISTOR	RD1/4PMFL2R2J
× NSP	R297	CARBONFILM RESISTOR	
	R298	CARBON FILM RESISTOR	RD1/2PM391J
	R299, 300	METALFILM RESISTER	RN1/2PC3602F
⚠	R304, 305	METAL OXIDE RESISTOR	RS1LMF331J
× NSP	R306	CARBONFILM RESISTOR	
⚠	R308, 309	METAL OXIDE RESISTOR	RS1LMF010J
	R310-312	CARBON FILM RESISTOR	RD1/2PM101J
⚠	R320	CARBON FILM RESISTOR	RD1/2PMFL562J
⚠	R321	METAL OXIDE RESISTOR	RS2LMF010J
⚠	R324, 325	METAL OXIDE RESISTOR	RS2LMF010J
		OTHER RESISTORS	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Part No.
	CN153-155	PLUG 6-P	AKM1072
⚠	FU101	FUSE(8A/125V)	AEK1002
		MICA SHEET	AEP-056

POWER SUPPLY, V-AMP, A CONNECTOR AND B CONNECTOR ASSEMBLIES

Mark No. Description Part No. **Mark No. Description Part No.**

☆ POWER SUPPLY ASSEMBLY (AWV1289 and AWV1290)

AWV1289, AWV1290 and AWV1281 have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		AWV1281	AWV1289	AWV1290	
	C132	CCCSL221K500	CCCSL221K500	• • • • •	
	C137	CEHAQ222M50	CEHAQ222M50	• • • • •	
	C150	CEHAQ221M25	CEHAQ221M25	CEAS221M25	
	C209,248	CKCYF472Z500	• • • • •	• • • • •	
	C210	CQMA333J50	• • • • •	• • • • •	
	C240	CKCYF104M16	• • • • •	• • • • •	
	L106,107	ATX-028	ATX-028	• • • • •	
⚠	D125	RL4Z(A)	RL4Z(A)	• • • • •	
⚠	D174	ES1F	• • • • •	• • • • •	
⚠	Q157	2SC4256(E)	• • • • •	• • • • •	
	Q158	2SC1740S	• • • • •	• • • • •	
	R143	RS1LMF272J	RS1LMF272J	• • • • •	
	R208	ACN1011	• • • • •	• • • • •	
⚠	R216,217	RS3LMF393J	• • • • •	• • • • •	
	R218	RD1/8PM113J	• • • • •	• • • • •	
	R222	RD1/8PM182J	• • • • •	• • • • •	
	R223	RD1/8PM431J	• • • • •	• • • • •	
	R225	RD1/8PM391J	• • • • •	• • • • •	
	R299	RN1/2PC3602F	RN1/2PC3902F	RN1/2PC3902F	

☆V-AMP ASSEMBLY (AWZ4191)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC201-203	OP-AMP IC	NJM4558DXP
	Q201-203	TRANSISTOR	2SC1740S
	Q204, 205	TRANSISTOR	2SC3064
	Q206	TRANSISTOR	2SC1740S
	Q207	TRANSISTOR	2SA933S
	Q208-212	TRANSISTOR	2SC1740S
	D201	ZENER DIODE	RD15ESB3
	D202, 203	DIODE	1SS252
	D204	ZENER DIODE	RD15ESB3
	D207	DIODE	1SS252

CAPACITORS

Mark	No.	Description	Part No.
	C271	CERAMIC CAPACITOR	CKCYB222K50
	C272	CERAMIC CAPACITOR	CKCYF473Z50
	C273	ELECT. CAPACITOR	CEHAQ470M25
	C274	ELECT. CAPACITOR	CEHAQ100M50
	C275-278	CERAMIC CAPACITOR	CKCYF473Z50
	C279	MYLAR FILM CAPACITOR	CQMA102J50
	C280	ELECT. CAPACITOR	CEHAQ100M50
	C287	ELECT. CAPACITOR	CEHAQ470M25
	C288	ELECT. CAPACITOR	CEANP100M35
	C289, 290	ELECT. CAPACITOR	CEHAQ470M25

RESISTORS

Mark	No.	Description	Part No.
× NSP	R354	CARBON FILM RESISTOR	
× NSP	R357	CARBON FILM RESISTOR	
		OTHER RESISTORS	RD1/8PM□□□J

A CONNECTOR ASSEMBLY (AWZ4211)

A CONNECTOR assembly has not service parts.

B CONNECTOR ASSEMBLY (AWZ4212)

B CONNECTOR assembly has not service parts.

6. IC INFORMATION

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

6.1 PD5185B (IC451)

• Control Microcomputer

● Pin Function

Note) I : CMOS input O : CMOS output N : N ch open dolein output

<table>
<tr><th>No.</th><th>Pin Name</th><th>I/O</th><th colspan="2">Function</th><th>Active</th></tr>
<tr><td>1</td><td>OSC1</td><td>I</td><td colspan="2" rowspan="2">Clock input and output for display.</td><td rowspan="2"></td></tr>
<tr><td>2</td><td>OSC2</td><td>O</td></tr>
<tr><td>3</td><td>KEYIN</td><td>I</td><td colspan="2">Front control key scan signal input. Decipher the format signal of IC551 (PD5136) of the front control circuit.</td><td>L</td></tr>
<tr><td>4</td><td>DPO
AFT
OPT</td><td>I</td><td colspan="2">Analog voltage input for DPO control. 16 stages.
Analog voltage input for AFT control. 3 stages.
Analog voltage input for OPTION. 4 stages. *1</td><td></td></tr>
<tr><td>5</td><td>REMIN</td><td>I</td><td colspan="2">Remote control signal input. Decipher the SR format signal.</td><td>L</td></tr>
<tr><td>6</td><td>ADSEL-1</td><td>O</td><td colspan="2">A/D switching output.</td><td></td></tr>
<tr><td>7</td><td>COLOR</td><td>N</td><td colspan="2">PWM output for color level control.</td><td>H</td></tr>
<tr><td>8</td><td>TINT</td><td>N</td><td colspan="2">PWM output for tint level control.</td><td>H</td></tr>
<tr><td>9</td><td>CONTR</td><td>N</td><td colspan="2">PWM output for contrast level control.</td><td>H</td></tr>
<tr><td>10</td><td>BRIGHT</td><td>N</td><td colspan="2">PWM output for brightness level control.</td><td>H</td></tr>
<tr><td>11</td><td>SHARP</td><td>N</td><td colspan="2">PWM output for sharpness level control.</td><td>H</td></tr>
<tr><td>12</td><td>DETAIL</td><td>N</td><td colspan="2">PWM output for detail level control.</td><td>H</td></tr>
<tr><td>13</td><td>VOLUME</td><td>N</td><td colspan="2">PWM output for front VOL. level control.</td><td>H</td></tr>
<tr><td>14</td><td>TONE/BAL
DL-VOL,
BAL</td><td>N</td><td colspan="2">PWM output for sound quality, Balance in the front L/R and Balance/Volume in the rear(*) /center level controls.
* : AWV1269 and AWV1271 are not used.</td><td>H</td></tr>
<tr><td>15</td><td>HS</td><td>I</td><td colspan="2">Horizontal sync count input for tuner reception. When the status in which there are 12 to 18 H-SYNC pulses in 1 msec continues 8 times, it is regarded that there is a broadcast. When any other status continues 6 times, it is regarded that there is no broadcast.</td><td></td></tr>
<tr><td>16</td><td>AC CLK</td><td>I</td><td colspan="2">AC clock detection input. Used for detection of AC power OFF. Dummy reset (software reset) is generated when no AC clock is supplied for 100 msec.</td><td></td></tr>
<tr><td>17</td><td>A MUTE</td><td>O</td><td colspan="2">Audio mute output. When selecting MUTE mode, switching input and turning power ON / OFF, Audio mute is output.</td><td>H</td></tr>
<tr><td>18</td><td>L-WHITE</td><td>O</td><td colspan="2">Linear white output.</td><td>L</td></tr>
<tr><td>19</td><td>4051-B</td><td>N</td><td colspan="2" rowspan="2">Switching output for multiplexer IC454 (MC14051BCP) of the control circuit.
Switching for Tone, Balance in the front L/R, Balance/Volume in the rear/center.
<table>
<tr><th></th><th>Bass</th><th>Treble</th><th>Front L/R Balance</th><th>Volume in the rear/center *</th><th>Balance in the rear/center *</th></tr>
<tr><td>Pin 20 (4051-A)</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td>Pin 19 (4051-B)</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td></tr>
<tr><td>Pin 23 (4051-C)</td><td>H</td><td>H</td><td>H</td><td>H</td><td>L</td></tr>
</table>
* : AWV1269 and AWV1271 are not used.</td><td rowspan="2"></td></tr>
<tr><td>20</td><td>4051-A</td><td>N</td></tr>
<tr><td>21</td><td>SCLK2</td><td>N</td><td>I^2C serial transmission clock.</td><td rowspan="2">Use for non-volatile memory IC452 (X24C04P) of the control circuit.</td><td rowspan="2"></td></tr>
<tr><td>22</td><td>SOUT2</td><td>I/N</td><td>I^2C serial data input and output.</td></tr>
</table>

<table>
<tr><th>No.</th><th>Pin Name</th><th>I/O</th><th colspan="2">Function</th><th>Active</th></tr>
<tr><td>23</td><td>4051-C</td><td>N</td><td colspan="2">Multiplexer IC454 (MC14051BCP) of the control circuit switching output.</td><td></td></tr>
<tr><td>24</td><td>SIN</td><td>I</td><td>Serial data input.</td><td rowspan="3">Used for tuner PLL, audio DSE (*), PINP, each circuits of the convergence and DOL. PRO. MOD..
* : AWV1269 and AWV1271 are not used.</td><td></td></tr>
<tr><td>25</td><td>SCLK1</td><td>N</td><td>Serial clock.</td><td></td></tr>
<tr><td>26</td><td>SOUT1</td><td>N</td><td>Serial data output.</td><td></td></tr>
<tr><td>27</td><td>CNVSS</td><td></td><td colspan="2">Connect to VSS.</td><td></td></tr>
<tr><td>28</td><td>NC</td><td>O</td><td colspan="2">Timing output terminal. (Not used)</td><td></td></tr>
<tr><td>29</td><td>RESET</td><td>I</td><td colspan="2">System reset. Reset is done by applying L for more than 0.95 μsec (when OSC=4.19 MHz).</td><td>L</td></tr>
<tr><td>30</td><td>X in</td><td>I</td><td colspan="2" rowspan="2">Input and output terminals for generating the main clock.
Connect the ceramic resonator of 4.19 MHz.</td><td></td></tr>
<tr><td>31</td><td>X out</td><td>O</td><td></td></tr>
<tr><td>32</td><td>VSS</td><td></td><td colspan="2">Apply 0V to VSS.</td><td></td></tr>
<tr><td>33</td><td>CONV B-MUT</td><td>O</td><td colspan="2" rowspan="3">R, G and B MUTE output when adjusting convergence.</td><td>H</td></tr>
<tr><td>34</td><td>CONV G-MUT</td><td>O</td><td>H</td></tr>
<tr><td>35</td><td>CONV R-MUT</td><td>O</td><td>H</td></tr>
<tr><td>36</td><td>ACL-OFF</td><td>O</td><td colspan="2">Peak ALC OFF output.</td><td>H</td></tr>
<tr><td>37</td><td>INP2</td><td>O</td><td colspan="2">Input switching signal output.</td><td></td></tr>
<tr><td>38</td><td>INP1</td><td>O</td><td colspan="2" rowspan="2">
<table>
<tr><th>Input</th><th>TV</th><th>LD</th><th>VIDEO-1</th><th>VIDEO-2</th><th>VIDEO-3</th></tr>
<tr><td>Pin 39 (INP0)</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td></tr>
<tr><td>Pin 38 (INP1)</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td>Pin 37(INP2)</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td></tr>
</table>
</td><td></td></tr>
<tr><td>39</td><td>INP0</td><td>O</td><td></td></tr>
<tr><td>40</td><td>RELAY</td><td>O</td><td colspan="2">Power relay control signal output. ON→L , OFF→H</td><td>L</td></tr>
<tr><td>41</td><td>ADSEL-2</td><td>O</td><td colspan="2">A/D switching output.
<table>
<tr><th></th><th>DPO</th><th>AFT</th><th>OPT</th></tr>
<tr><td>Pin 6 (ADSEL-1)</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td>Pin 41 (ADSEL-2)</td><td>H</td><td>L</td><td>H</td></tr>
</table>
</td><td></td></tr>
<tr><td>42</td><td>4094-STB</td><td>O</td><td colspan="2">Expander IC701 (TC4094BP) of the PINP circuit strobe for switching the PINP sub-picture.</td><td>H</td></tr>
<tr><td>43</td><td>PINP-ENB</td><td>O</td><td colspan="2">Used for the data transfer to PINP IC704 (MB86153BPF).</td><td>H</td></tr>
<tr><td>44</td><td>CONV-MUTE</td><td>O</td><td colspan="2">MUTE output for IC603 and IC604 (PM0002A) of the convergence circuit .</td><td>L</td></tr>
<tr><td>45</td><td>CONV-ENB</td><td>O</td><td colspan="2">Data enable for IC603 and IC604 (PM0002A) of the convergence circuit.</td><td>L</td></tr>
<tr><td>46</td><td>PLL-ENB</td><td>O</td><td colspan="2">Data enable for PLL (TV front-end and IF pack) of the tuner circuit.</td><td>H</td></tr>
<tr><td>47</td><td>DOL-STB</td><td>O</td><td colspan="2">Expander IC1906 (M66320FP) of the DOL. PRO. MOD. strobe for dolby mode control.
(AWV1269 and AWV1271 only.)</td><td>H</td></tr>
<tr><td>48</td><td>DSE-ENB</td><td>O</td><td colspan="2">Expander IC1504 (TC4094BP) of the DSE circuit strobe for DSE control.
(AWV1269 and AWV1271 only.)</td><td>L</td></tr>
<tr><td>49</td><td>STEREO</td><td>I</td><td colspan="2">Broadcast format deciding input.</td><td>L</td></tr>
<tr><td>50</td><td>SAP</td><td>I</td><td colspan="2">
<table>
<tr><th></th><th>STEREO/SAP</th><th>SAP</th><th>STEREO</th><th>MONO</th></tr>
<tr><td>Pin 49 (STEREO)</td><td>L</td><td>H</td><td>L</td><td>H</td></tr>
<tr><td>Pin 50 (SAP)</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
</table>
</td><td>L</td></tr>
<tr><td>51</td><td>MTS1</td><td>O</td><td colspan="2" rowspan="2">MTS mode output. Effective only when SAP is included in on-air signals. In other conditions, the logic in parentheses is used.
<table>
<tr><th></th><th>MAIN/SAP</th><th>MAIN</th><th>SAP</th><th>MONO</th></tr>
<tr><td>Pin 52 (MTS0)</td><td>L (L)</td><td>L</td><td>H (L)</td><td>H</td></tr>
<tr><td>Pin 51 (MTS1)</td><td>L (H)</td><td>H</td><td>L (H)</td><td>H</td></tr>
</table>
</td><td>L</td></tr>
<tr><td>52</td><td>MTS0</td><td>O</td><td>L</td></tr>
</table>

No.	Pin Name	I/O	Function	Active
53	TV-A	O	TV audio mute output.	L
54	TV-TEST	I	Tuner test mode detection input	L
55	PLL LOCK	I	PLL lock detection input.	L
56	ANTENA-SEL	O	Antenna switching output. L→ANT. 1 , H→ANT. 2	
57	BLK OUT	O	Video output for OSD.	H
58	TEST CROSS	O		H
59	B	O		H
60	G	O		H
61	R	O		H
62	VSYNC	I	Synchronizing signal input for OSD.	L
63	HSYNC	I		L
64	VDD	I	Apply +5V power supply.	

*1 : Option analog voltage.
Used as follows by adding the divided voltage of 5 V which is obtained from two resistors, R594 and R595, to pin 4.

Family	Part No. of the TUNER-VIDEO Assembly	Voltage
PRO family/KUX1C	AWV1269	5.50 – 3.907V
65, 64 and 67 families/KUX1C	AWV1246 and AWV1252	3.905 – 2.657V
65 family/KCX1C	AWV1270	2.655 – 1.407V
SD-P5006/S	AWV1271	1.405 – 0.156V

6.2 PD5186B (IC451)

- **Control Microcomputer**

● Pin Function

Note) I : CMOS input O : CMOS output N : N ch open dolein output

No.	Pin Name	I/O	Function	Active
1	OSC1	I	Clock input and output for display.	
2	OSC2	O		
3	KEYIN	I	Front control key scan signal input. Decipher the format signal of IC551 (PD5136) of the front control circuit.	L
4	DPO AFT OPT	I	Analog voltage input for DPO control. 16 stages. (AWV1255 and AWV1267 only.) Analog voltage input for AFT control. 3 stages. Analog voltage input for OPTION. 4 stages. *1	
5	REMIN	I	Remote control signal input. Decipher the SR format signal.	L
6	ADSEL-1	O	A/D switching output.	
7	COLOR	N	PWM output for color level control.	H
8	TINT	N	PWM output for tint level control.	H
9	CONTR	N	PWM output for contrast level control.	H
10	BRIGHT	N	PWM output for brightness level control.	H
11	SHARP	N	PWM output for sharpness level control.	H
12	DETAIL	N	PWM output for detail level control.	H
13	VOLUME	N	PWM output for volume level control.	H
14	TONE/BAL	N	PWM output for sound quality and Balance level controls.	H
15	HS	I	Horizontal sync count input for tuner reception. When the status in which there are 12 to 18 H-SYNC pulses in 1 msec continues 8 times, it is regarded that there is a broadcast. When any other status continues 6 times, it is regarded that there is no broadcast.	
16	AC CLK	I	AC clock detection input. Used for detection of AC power OFF. Dummy reset (software reset) is generated when no AC clock is supplied for 100 msec.	
17	A MUTE	O	Audio mute output. When selecting MUTE mode, switching input and turning power ON/OFF, Audio mute is output.	H
18	L-WHITE	O	Linear white output.	L
19	4051-B	N	Switching output for multiplexer IC454 (MC14051BCP) of the control circuit. Switching for Tone and Balance.	
20	4051-A	N		

	Bass	Treble	Balance
Pin 20 (4051-A)	L	H	L
Pin 19 (4051-B)	L	L	H
Pin 23 (4051-C)	H	H	H

No.	Pin Name	I/O	Function	Active
21	SCLK2	N	I^{2}C serial transmission clock. Use for IC454 (MC14051BCP) of the control circuit.	
22	SOUT2	I/N	I^{2}C serial data input and output.	
23	4051-C	N	Switching output for multiplexer IC454 (MC14051BCP) of the control circuit.	
24	SIN	I	Serial data input. Used for tuner PLL, PINP (*), PINP and convergence circuit. * : AWV1265 and AWV1287 are not used.	
25	SCLK1	N	Serial clock.	
26	SOUT1	N	Serial data output.	

<table>
<tr><th>No.</th><th>Pin Name</th><th>I/O</th><th>Function</th><th>Active</th></tr>
<tr><td>27</td><td>CNVSS</td><td></td><td>Connect to VSS.</td><td></td></tr>
<tr><td>28</td><td>NC</td><td>O</td><td>Timing output terminal. (Not used)</td><td></td></tr>
<tr><td>29</td><td>RESET</td><td>I</td><td>System reset. Reset is done by applying L for more than 0.95 µsec (when OSC=4.19 MHz).</td><td>L</td></tr>
<tr><td>30</td><td>X in</td><td>I</td><td rowspan="2">Input and output terminals for generating the main clock.
Connect the ceramic resonator of 4.19 MHz.</td><td></td></tr>
<tr><td>31</td><td>X out</td><td>O</td><td></td></tr>
<tr><td>32</td><td>VSS</td><td></td><td>Apply 0V to VSS.</td><td></td></tr>
<tr><td>33</td><td>CONV B-MUT</td><td>O</td><td rowspan="3">R, G and B MUTE output when adjusting convergence.</td><td>H</td></tr>
<tr><td>34</td><td>CONV G-MUT</td><td>O</td><td>H</td></tr>
<tr><td>35</td><td>CONV R-MUT</td><td>O</td><td>H</td></tr>
<tr><td>36</td><td>ACL-OFF</td><td>O</td><td>Peak ALC OFF output.</td><td>H</td></tr>
<tr><td>37</td><td>INP2</td><td>O</td><td rowspan="3">Input switching signal output.
<table>
<tr><th>Input</th><th>TV</th><th>LD</th><th>VIDEO-1</th><th>VIDEO-2
*</th><th>VIDEO-3
*</th></tr>
<tr><td>Pin 39 (INP0)</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td></tr>
<tr><td>Pin 38 (INP1)</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td>Pin 37(INP2)</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td></tr>
</table>
*: AWV1255 and AWV1267 only.</td><td></td></tr>
<tr><td>38</td><td>INP1</td><td>O</td><td></td></tr>
<tr><td>39</td><td>INP0</td><td>O</td><td></td></tr>
<tr><td>40</td><td>RELAY</td><td>O</td><td>Power relay control signal output. ON → L , OFF → H</td><td>L</td></tr>
<tr><td>41</td><td>ADSEL-2</td><td>O</td><td>A/D switching output.
<table>
<tr><th></th><th>DPO *</th><th>AFT</th><th>OPT</th></tr>
<tr><td>Pin 6 (ADSEL-1)</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td>Pin 41 (ADSEL-2)</td><td>H</td><td>L</td><td>H</td></tr>
</table>
*: AWV1255 and AWV1267 only.</td><td></td></tr>
<tr><td>42</td><td>4094-STB</td><td>O</td><td>Expander IC701 (TC4094BP) of the PINP circuit strobe for switching the PINP sub-picture.
AWV1265 and AWV1287 are not used.</td><td>H</td></tr>
<tr><td>43</td><td>PINP-ENB</td><td>O</td><td>Used for the data transfer to PINP IC704 (MB86153BPF). AWV1265 nad AWV1287 are not used.</td><td>H</td></tr>
<tr><td>44</td><td>CONV-MUTE</td><td>O</td><td>MUTE output for IC603 and IC604 (PM0002A) of the convergence circuit .</td><td>L</td></tr>
<tr><td>45</td><td>CONV-ENB</td><td>O</td><td>Data enable for IC603 and IC604 (PM0002A) of the convergence circuit.</td><td>L</td></tr>
<tr><td>46</td><td>PLL-ENB</td><td>O</td><td>Data enable for PLL (TV front-end and IF pack) of the tuner circuit.</td><td>H</td></tr>
<tr><td>47</td><td>N.C</td><td>O</td><td>Not used.</td><td></td></tr>
<tr><td>48</td><td>N.C</td><td>O</td><td>Not used.</td><td></td></tr>
<tr><td>49</td><td>STEREO</td><td>I</td><td rowspan="2">Broadcast format deciding input.
<table>
<tr><th></th><th>STEREO/SAP</th><th>SAP</th><th>STEREO</th><th>MONO</th></tr>
<tr><td>Pin 49 (STEREO)</td><td>L</td><td>H</td><td>L</td><td>H</td></tr>
<tr><td>Pin 50 (SAP)</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
</table></td><td>L</td></tr>
<tr><td>50</td><td>SAP</td><td>I</td><td>L</td></tr>
<tr><td>51</td><td>MTS1</td><td>O</td><td rowspan="2">MTS mode output. Effective only when SAP is included in on-air signals. In other conditions, the logic in parentheses is used.
<table>
<tr><th></th><th>MAIN/SAP</th><th>MAIN</th><th>SAP</th><th>MONO</th></tr>
<tr><td>Pin 52 (MTS0)</td><td>L (L)</td><td>L</td><td>H (L)</td><td>H</td></tr>
<tr><td>Pin 51 (MTS1)</td><td>L (H)</td><td>H</td><td>L (H)</td><td>H</td></tr>
</table></td><td>L</td></tr>
<tr><td>52</td><td>MTS0</td><td>O</td><td>L</td></tr>
</table>

No.	Pin Name	I/O	Function	Active
53	TV-A	O	TV audio mute output.	L
54	TV-TEST	I	Tuner test mode detection input	L
55	PLL LOCK	I	PLL lock detection input.	L
56	N.C	O	Not used.	
57	BLK OUT	O	Video output for OSD.	H
58	TEST CROSS	O		H
59	B	O		H
60	G	O		H
61	R	O		H
62	VSYNC	I	Synchronizing signal input for OSD.	L
63	HSYNC	I		L
64	VDD	I	Apply +5V power supply.	

* 1 : Option analog voltage.
Used as follows by adding the divided voltage of 5 V which is obtained from two resistors, R594 and R595, to pin 4.

Family	Part No. of the TUNER-VIDEO Assembly	Voltage
61 family of 40"/KUX1C	AWV1287	5.50 – 3.907V
63 family/KUX1C and SD-P4006/S	AWV1255	3.905 – 3.282V
63 family/KCX1C	AWV1267	3.280 – 2.657V
62 family/KUX1C	AWV1261	2.655 – 1.719V
62 family/KCX1C	AWV1268	1.717 – 0.782V
61 family of 45"/KUX1C	AWV1265	0.780 – 0.156V

6.3 X24C02P (IC452)

•Electrically Eraseable PROM

X24C02P is a serial 2048-bit E²PROM, which consists of a single page of 256 × 8.

• Pin Function

No.	Pin Name	Function
1	A0	Address Inputs.
2	A1	
3	A2	
4	VSS	Vss
5	SDA	Serial data
6	SCL	Serial clock
7	TEST	Charge pump enable
8	VCC	Vcc

6.4 X24C04P (IC452)

•Electrically Eraseable PROM

X24C04P is a serial 4096-bit E²PROM of the CMOS type, which consists of eight pages of 256 × 8.

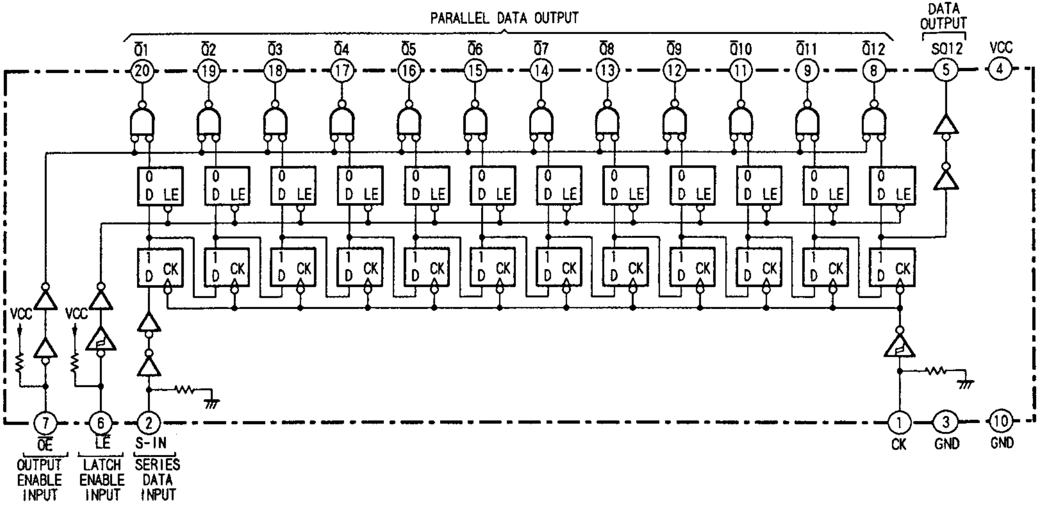
• Pin Function

No.	Pin Name	Function
1	A0	Address Inputs.
2	A1	
3	A2	
4	VSS	Ground
5	SDA	Serial data
6	SCL	Serial clock
7	TEST	Hold at Vss.
8	VCC	Supply voltage

6.5 M66320FP (IC1906)

- **Port-Expander**

• Block Diagram


PARALLEL DATA OUTPUT
SERIES DATA OUTPUT
$\overline{Q1}$
$\overline{Q2}$
$\overline{Q3}$
$\overline{Q4}$
$\overline{Q5}$
$\overline{Q6}$
$\overline{Q7}$
$\overline{Q8}$
$\overline{Q9}$
$\overline{Q10}$
$\overline{Q11}$
$\overline{Q12}$
SQ12
VCC
20
19
18
17
16
15
14
13
12
11
9
8
5
4
0 D LE
1 D CK
VCC
VCC
7
6
2
1
3
10
$\overline{OE}$
$\overline{LE}$
S-IN
OUTPUT ENABLE INPUT
LATCH ENABLE INPUT
SERIES DATA INPUT
CK
GND
GND

• Pin Function

Input				Output												Series Output
CK	$\overline{LE}$	S-IN	$\overline{OE}$	$\overline{Q1}$	$\overline{Q2}$	$\overline{Q3}$	$\overline{Q4}$	$\overline{Q5}$	$\overline{Q6}$	$\overline{Q7}$	$\overline{Q8}$	$\overline{Q9}$	$\overline{Q10}$	$\overline{Q11}$	$\overline{Q12}$	**SQ12**
↑	H	H	L	L	$\overline{Q1}^{\circ}$	$\overline{Q2}^{\circ}$	$\overline{Q3}^{\circ}$	$\overline{Q4}^{\circ}$	$\overline{Q5}^{\circ}$	$\overline{Q6}^{\circ}$	$\overline{Q7}^{\circ}$	$\overline{Q8}^{\circ}$	$\overline{Q9}^{\circ}$	$\overline{Q10}^{\circ}$	$\overline{Q11}^{\circ}$	$q11^{\circ}$
↑	H	L	L	H	$\overline{Q1}^{\circ}$	$\overline{Q2}^{\circ}$	$\overline{Q3}^{\circ}$	$\overline{Q4}^{\circ}$	$\overline{Q5}^{\circ}$	$\overline{Q6}^{\circ}$	$\overline{Q7}^{\circ}$	$\overline{Q8}^{\circ}$	$\overline{Q9}^{\circ}$	$\overline{Q10}^{\circ}$	$\overline{Q11}^{\circ}$	$q11^{\circ}$
X	L	X	L	$\overline{Q1}^{\circ}$	$\overline{Q2}^{\circ}$	$\overline{Q3}^{\circ}$	$\overline{Q4}^{\circ}$	$\overline{Q5}^{\circ}$	$\overline{Q6}^{\circ}$	$\overline{Q7}^{\circ}$	$\overline{Q8}^{\circ}$	$\overline{Q9}^{\circ}$	$\overline{Q10}^{\circ}$	$\overline{Q11}^{\circ}$	$\overline{Q12}^{\circ}$	$q12^{\circ}$
X	X	X	H	H	H	H	H	H	H	H	H	H	H	H	H	$q12^{\circ}$

Note: ↑ : Indicates the change from L to H.
$\overline{Q}^{\circ}$: Indicates the status of the $\overline{Q}$ output before the CK input changes.
X : Either L or H.
q° : Content of the shift register before CK changes..
q : Content of the shift register.

6.6 LV1001M-A (IC1902)

•Dolby Surround

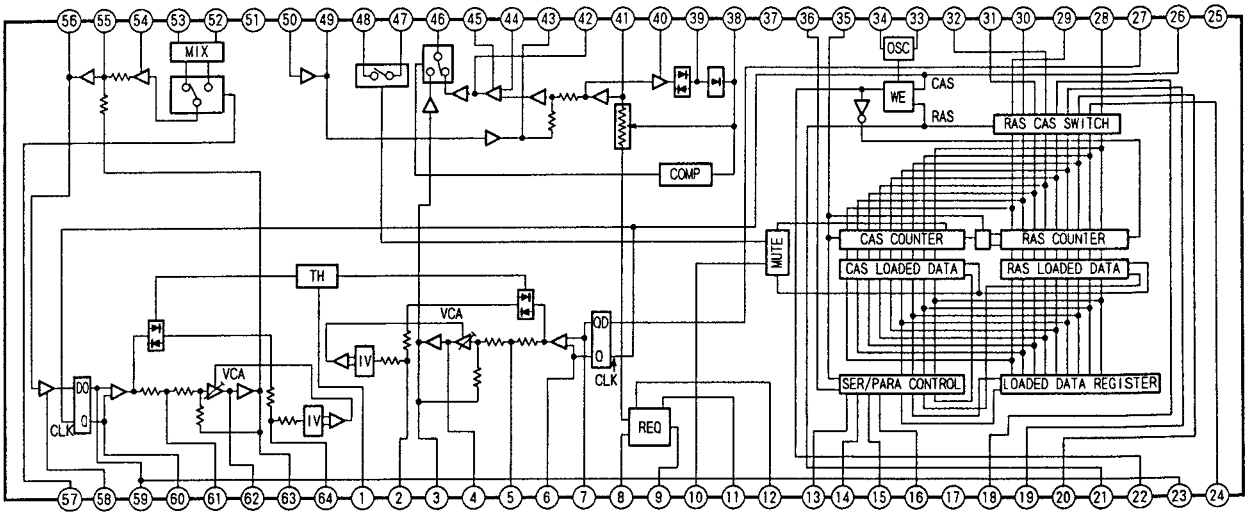
• General Description

The LV1001M-A is a monolithic integrated circuit designed for use in the Dolby Surround system. It is suitable for Passive Decoder. It contains all functions of this system, such as Fixed Matrix, Modified Dolby B-type noise reduction, 7kHz low pass filter and audio delay.
In this LSI, the Time Link Digital Delay system is adopted to the audio delay stage.
The Dolby Surround Passive Decoder can be constructed using the LV1001M-A, only with a memory IC, furthermore the Dolby Pro Logic Surround Decoder can also be constructed combined with the LA2780 (Dolby Pro Logic Surround Adaptive Matrix Decoder).

• Functions

- All functions for the Dolby Surround Passive Decoder.
  - Time Link Digital Delay system
  - Modified Dolby B-type noise reduction
  - 7 kHz low pass filter
  - Fixed matrix
- Variable delay time
- Simulated surround is available
- Mute circuit
- VDD power supply circuit

● Block Diagram



● Pin Function

Pin No.	Description	Pin No.	Description
1	De-couple capacitor for threshold voltage.	37	For test mode.
2 and 64	Capacitor for smoothing of rectifier output.	38	Smoothing for NR rectifier.
3	Capacitor for sliding band filter and Delayed output.	39	Smoothing for NR rectifier.
4 and 62	Capacitor for sliding band filter.	40	Capacitor for weighting on side chain path.
5 and 61	Capacitor for pre-emphasis.	41	Input for variable resistor.
6 and 60	Input filter for rectifier.	42	NR output.
7 and 59	Input filter for rectifier.	43	7 kHz low pass filter output.
8	Reference voltage (1/2 Vcc) First-order side.	44	NR input.
9	Reference voltage (1/2 Vcc) Second-order side.	45	Capacitor for de-couple.
10	Mute control.	46	Delay output and NR output.
11	Vcc	47	Input for mute circuit.
12	Output for VDD.	48	Output for mute circuit.
13	Clock input for serial input, data input for parallel input mode.	49	Output for 7 kHz low pass filter.
14	Data input for serial input, data input for parallel input mode.	50	Input for 7 kHz low pass filter.
15	Column address selection for serial input, data input for parallel input mode.	51	GND
16	Row address selection for serial input, data input for parallel input mode.	52	Input for right channel.
17	VDD	53	Input for left channel.
18 to 24 and 26 to 32	Connection to memory device.	54	Capacitor for de-couple on Fixed matrix output.
25	Vss	55	Noise shaping and delay input.
33	X'tal resonator for oscillator.	56	Noise shaping output.
34	X'tal resonator for oscillator.	57	Delay input signal mode select switch. (L+R/L−R)
35	Long or short mode selection.	58	Filter for supply voltage on comparator.
36	Serial or Parallel mode selection.	63	Capacitor for sliding band filter and local decoder output

● Function Explanations

Fixed Matrix :

Input left channel signal to pin 53 and right channel signal to pin 52. When pin 57 is opend, L - R signal is generated and input to the delay circuit. When pin 57 is connected to GND, L+R signal is generated and input to the delay circuit.

Mute Switch :

When pin 10 is connected to GND, the mute circuit is activated. The mute circuit is also automatically activated when changing the delay time setting in serial input mode.

System Switch :

When pin 38 is opend, a delayed signal is output from pin 46 through the 7 kHz low pass filter and NR. When pin 38 is connected to GND, a delayed signal is output from pin 46 directly . When pin 38 is connected to Vcc through 10k Ω resistor, NR circuit is turned OFF. Then delay circuit and 7 kHz low pass filter are used without NR circuit.

● Requirements of the Delay Time Setting

The delay time can be set using pins 13 to 16, 35 and 36 as follows. Use the unit in mode settings indicated by *.

Pin 35 Status :

* H or open	: Activates Short mode in which the maximum delay time is about 30 ms.
L or GND	: Activates Long mode in which the maximum delay time is about 130 ms when using a 256k DRAM.

Pin 36 Status :

This pin controls the input condition for pins 13 to 16.

* H or open	: Activates Parallel input mode in which the delay time is set using 4-bit parallel data. In this input mode, the delay time is set in 2-ms steps in Short mode and in 8-ms steps in Long mode.
L or GND	: Activates Serial input mode in which the delay time is set using serial data of 8-bit word length (Short mode) and 9-bit word length (Long mode). In this mode, the dealy time is set in 0.5 - μ sec steps.

● Methods of the Delay Time Setting

The LV1001M- A uses a 16-bit counter in Short mode and a 18-bit counter in Long mode. When any count value overflows, the value defined by the user is repeatedly resumed to access to the address of memory. Using this user-defined count value, the delay time can be set as desired.

The delay time setting can be performed using the following two methods.

Serial Input Mode :

Supply a clock to pin 13 and the address data to pin 14 in the sequence from thev upper-most bit in synchronization with this clock. The internal 9-bit shift resistor holds the data obtained via pin 14 and controls pins 15 (CAS) and 16 (RAS) to determine whether to send the data to the data latch for column-address strobe or that for the low-address strobe. The delay time is determined according to the time in which the counter counts from the input address data to FFFF (in Short mode). As the counter's operation clock is 2 MHz, the minimum step is 500 ns.

For example, to set the delay time to 20 ms:

20 ms ÷ 0.5 μs = 40000 = 9C40 (HEX)
FFFF - 9C40 + 0001 = 63C0

Thus, the delay time is set to 20 ms by specifying the count value to 63C0.

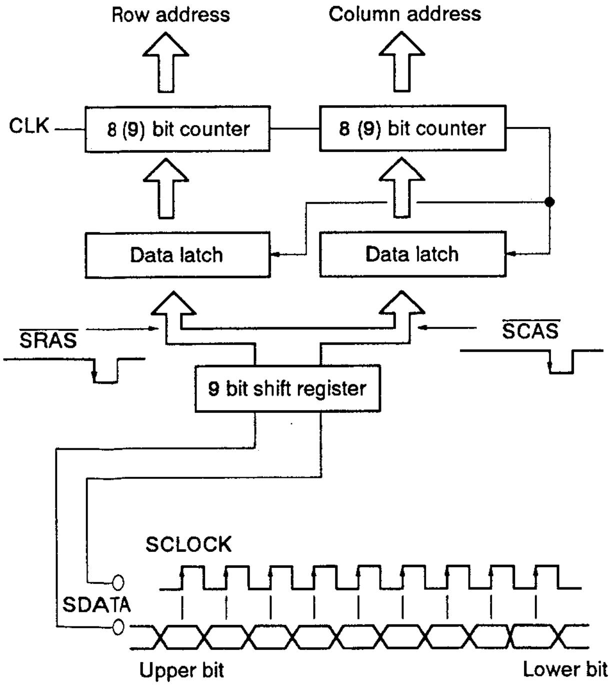
Parallel Input Mode :

Pins 13 to 16 can be used to input parallel data by using pin 13 for the upper-most bit and pin 16 for the lower-most bit. In this usage, the upper 4 bits of the address counter can be specified, permitting the delay time to be changed by 2 ms in Short mode and by 8 ms in Long time. When pins 13 to 16 and 35 are all open, the delay time is automatically set to about 20 ms in Short mode and about 30 ms in Long mode. Pin 13 corresponds to S8, pin 14 corresponds to S4, pin 15 corresponds to S2, and pin 16 corresponds to S1. The S8 to S1 settings determines the delay time as shown in Table 6 - 1.

Table 6-1 Relationship between parallel data and delay time

S8	S4	S2	S1	Short Mode	Long Mode
0 *	0 *	0 *	0 *	20.4 ms *	32.8 ms
0	0	0	1	30.7 ms	122.9 ms
0	0	1	0	28.7 ms	114.7 ms
0	0	1	1	26.6 ms	106.5 ms
0	1	0	0	24.6 ms	98.3 ms
0	1	0	1	22.5 ms	90.1 ms
0	1	1	0	20.5 ms	81.9 ms
0	1	1	1	18.4 ms	73.7 ms
1	0	0	0	16.4 ms	65.5 ms
1	0	0	1	14.3 ms	57.3 ms
1	0	1	0	12.3 ms	49.2 ms
1	0	1	1	10.2 ms	41.0 ms
1	1	0	0	8.2 ms	32.8 ms
1	1	0	1	6.1 ms	24.6 ms
1	1	1	0	4.1 ms	16.4 ms
1	1	1	1	2.0 ms	8.2 ms

Note: This model is fixed to the setting marked with *


Row address
Column address
CLK
8 (9) bit counter
8 (9) bit counter
Data latch
Data latch
SRAS
SCAS
9 bit shift register
SCLOCK
SDATA
Upper bit
Lower bit

Short mode is 8 bit and long mode is 9 bit.

Fig.6-2 Data format of serial mode input

In Short mode, the delay time is set with the timing shown in Fig. 6 - 3. The input data to SDATA are read at the rising edges of SCLOCK. Whether to send the data to the data latch for the row-address strobe or that for the column-address strobe is determined by SRAS and SCAS. SRAS and SCAS operate at the falling edges. When the delay time setting is changed, it may cause a problem that data of memories which have not been accessed before cannot be easily read. To prevent this problem, the mute circuit (pin 47 input or pin 48 output) can be activated immediately after SRAS or SCAS is controlled. The mute continues for the same duration as that set for the delay time. (This is effective only in serial input mode. To mute in Parallel input mode, use the pin 10 mute control terminal.) In Long mode, the number of data to be input is 9 but the setting method is the same.

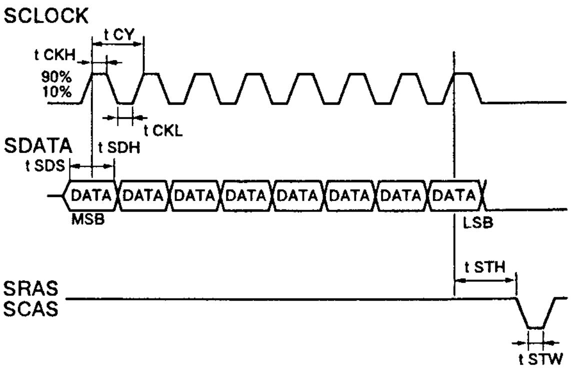

SCLOCK
t CY
t CKH
90%
10%
t CKL
SDATA
t SDH
t SDS
DATA
DATA
DATA
DATA
DATA
DATA
DATA
DATA
MSB
LSB
t STH
SRAS
SCAS
t STW

Fig.6-3 Timing chart of input address port

6.7 LA2780 (IC1901)

- **Dolby Prologic**

• Pin Function

Pin No.	Description	Pin No.	Description
1	3 CH logic / 4 CH pro logic / noise sequencer switch.	19	Capacitor for VCS double time constant.
2	Noise sequencer LSB.	20	Capacitor for VCS double time constant.
3	Noise sequencer MSB / auto-balance operation switch.	21	For smoothing capacitor of threhold voltage of VCS double time constant .
4	Center mode switch 1.	22	For smoothing capacitor of L+R signal full-wave rectification.
5	Center mode switch 2.	23	For smoothing capacitor of L - R signal full-wave rectification.
6	VREF.	24	Buffer output terminal of RT full-wave rectification input.
7	AC GND.	25	Buffer input terminal of RT full-wave rectification input.
8	LT input terminal.	26	RT output (Noise sequencer / auto-balance output).
9	RT input terminal.	27	Vcc
10	GND.	28	Capacitor for setting the center mode.
11	LT output (Noise sequencer / auto-balance output).	29	S output.
12	Buffer input terminal of LT full-wave rectification input.	30	R output.
13	Buffer output terminal of LT full-wave rectification input.	31	C output.
14	For smoothing capacitor of R signal full-wave rectification.	32	L output.
15	For smoothing capacitor of L signal full-wave rectification.	33	Dummy random noise input.
16	For smoothing capacitor of threhold voltage of VLR double time constant .	34	Dummy random noise output.
17	Capacitor for VLR double time constant.	35	Capacitor for oscillation circuit of dummy random noise generator.
18	Capacitor for VLR double time constant.	36	Capacitor for auto-balance oscillation circuit.

6.8 PM0002A (IC603, IC604)

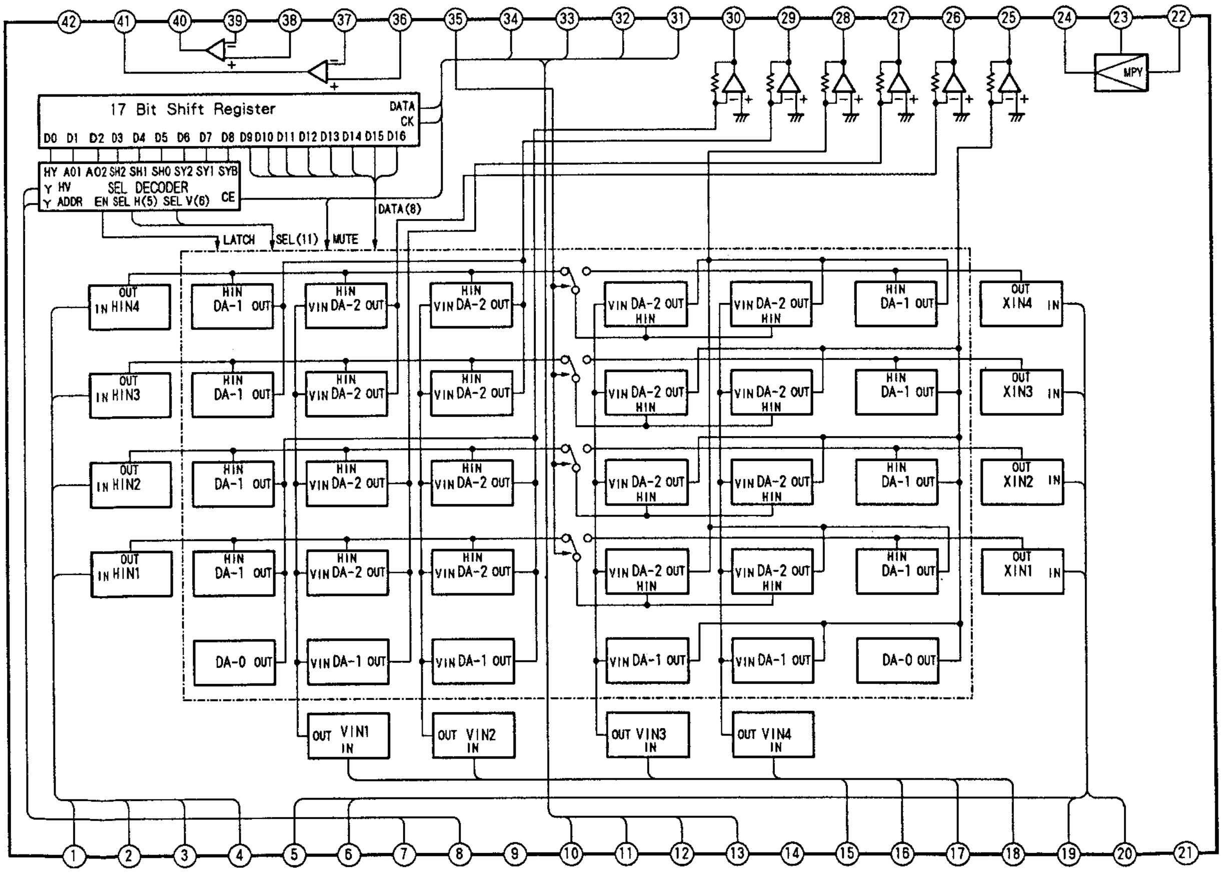
- **Multiplication by Digital Control**

• Pin Function

Pin No.	Pin Name	Description	Pin No.	Pin Name	Description
1	INH1	Signal input for H first-order.	11	MUTEB	Mute input. (Internal connection with pin 33.) MUTE=0V.
2	INH2	Signal input for H second-order.	12	DATA	Data (Internal connecttion wit pin 32.)
3	INH3	Signal input for H third-order.	13	CEB	Enable (Internal connecttion wit pin 31.)
4	INH4	Signal input for H fourth-order.	14	INJ	Injector. Connect a 2k Ω resistor between pin 14 and VCC (pin 21).
5	INX1	Signal input for H fifth-order. (For business use.)	15	INV1	Signal input for V first-order.
6	INX2	Signal input for H sixth-order. (For business use.)	16	INV2	Signal input for V second-order.
7	ICADDR	Address input. +5V : R , GND : G , -5V : B	17	INV3	Signal input for V third-order.
8	HV	Select the H and V. High : H , Low : V	18	INV4	Signal input for V fourth-order.
9	VEE	– 5V power supply.	19	INX3	Signal input for V fifth-order. (For business use.)
10	CLKB	Clock input. (Internal connecttion wit pin 34.)	20	INX4	Signal input for V sixth-order. (For business use)

Pin No.	Pin Name	Description	Pin No.	Pin Name	Description
21	VCC	+ 5V power supply.	32	DATA	Data. (Internal connection with pin 12.)
22	MPYIN2	Multiplicator input 2.	33	MUTEB	Mute input. (Internal connection with pin 11.) MUTE=0V.
23	MPYIN1	Multiplicator input 1.	34	CLKB	Clock input. (Internal connecttion wit pin 10.)
24	MPYOUT	Multiplicator output.	35	PCSEL	Mode switch (for business use and public use.) Business use : - 5V, Public use : 0V
25	VOUT3	DA output 3 for V.	36	A2INP	+ input of OP amp. 2.
26	VOUT2	DA output 2 for V.	37	A2INM	- input of OP amp. 2.
27	VOUT1	DA output 1 for V.	38	A1INP	+ input of OP amp. 1.
28	HOUT3	DA output 3 for H.	39	A1INM	- input of OP amp. 1.
29	HOUT2	DA output 2 for H.	40	A1OUT	OP amp. 1 output.
30	HOUT1	DA output 1 for H.	41	A2OUT	OP amp. 2 output.
31	CEB	Enable. (Internal connection with pin 13.)	42	VEE	- 5V power supply.

• Block Diagram


17 Bit Shift Register
DATA
CK
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16
HY A01 A02 SH2 SH1 SH0 SY2 SY1 SYB
Y HV SEL DECODER
Y ADDR EN SEL H(5) SEL V(6)
CE
DATA(8)
LATCH
SEL(11)
MUTE
MPY
HIN4
HIN3
HIN2
HIN1
DA-1
DA-2
DA-0
VIN1
VIN2
VIN3
VIN4
XIN4
XIN3
XIN2
XIN1
IN
OUT
HIN
VIN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
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41
42

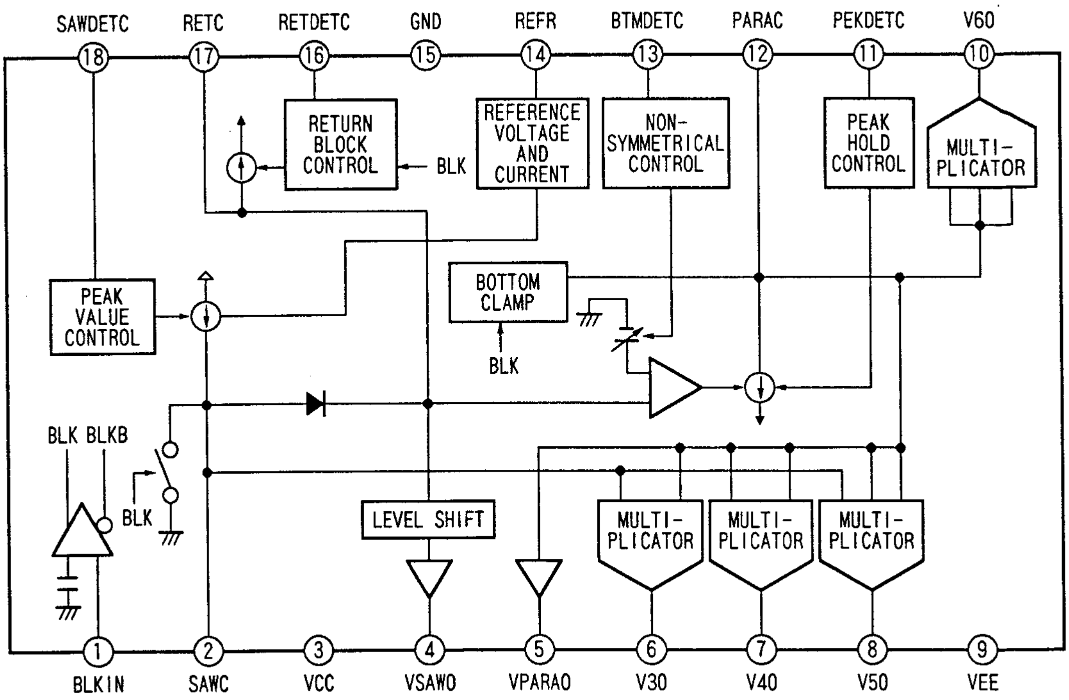
6.9 PA0053A (IC601, IC602)

•Waveform Generator for Correcting the Convergence

- **Pin Function**

Pin No.	Pin Name	Description	Pin No.	Pin Name	Description
1	BLKIN	Blanking pulse input.	10	V6O	Sixth-order waveform output.
2	SAWC	Capactor for generating sawtooth waveform.	11	PEKDETC	Capacitor for peak detection of the parabolic waveform.
3	VCC	+5V power supply.	12	PARAC	Capacitor for generating the parabolic waveform.
4	VSAWO	Sawtooth waveform output.	13	BTMDETC	Capacitor for bottom detection of the parabolic waveform.
5	VPARAO	Parabolic waveform output.	14	REFR	Reference charged current set.
6	V3O	Third-order waveform output.	15	GND	Ground.
7	V4O	Fourth-order waveform output.	16	RETDETC	Capacitor for detecting the sawtooth waveform return block.
8	V5O	Fifth-order waveform output.	17	RETC	Capacitor for generating the sawtooth waveform return block.
9	VEE	− 5V power supply.	18	SAWDETC	Capacitor for peak detection of the sawtooth waveform.

- **Block Diagram**


SAWDETC
RETC
RETDETC
GND
REFR
BTMDETC
PARAC
PEKDETC
V60
18
17
16
15
14
13
12
11
10
RETURN BLOCK CONTROL
BLK
REFERENCE VOLTAGE AND CURRENT
NON-SYMMETRICAL CONTROL
PEAK HOLD CONTROL
MULTI-PLICATOR
BOTTOM CLAMP
BLK
PEAK VALUE CONTROL
BLK BLKB
BLK
LEVEL SHIFT
MULTI-PLICATOR
MULTI-PLICATOR
MULTI-PLICATOR
1
2
3
4
5
6
7
8
9
BLKIN
SAWC
VCC
VSAWO
VPARAO
V30
V40
V50
VEE

6.10 TA8801AN (IC254)

•Luminance, Chroma and Sync. Signal Processor IC for NTSC System

● Outline

TA8801AN is an integrated circuit which is made by integrating luminance/chrominance/sync signal processing circuits in a 36-pin shrink DIP plastic package.

① Video section
- Black expansion circuit.
- Outline correction by delay line.
- High brightness color.
- Correction of the DC transmission rate.

② On screen section
- R, G and B input, and video mute.
- Contrast control.

③ Synchronous and deflection sections
- High performance sync. separation circuit.
- Oscillation circuit of the count-down system, which requires no adjustment.
- Horizontal phase adjustment.
- X - ray protection circuit.

④ Chroma section
- R - Y and B - Y double axes demodulation.
- APC which requires no adjustment.

● Pin Function

Pin No.	Pin Name	Description
1	VP OUT/OSD CONTRAST	Vertical sync. pulse is output. And OSD contrast is able to adjust by applying voltage.
2	V. SEPA. FILTER	Connect the filter for vertical sync. separation.
3	AFC FILTER	Connect the AFCfilter.
4	32 fH VCO	Connect the ceramic resonator to organizing the 32 fH (503 kHz) oscillation circuit.
5	H. SCREEN POSITION ADJ	Horizontal screen position is able to adjust by applying voltage.
6	DEF VCC	Apply power supply voltage.
7	H. OUT	H. output terminal. Pulse of the amplitude of 5.0 Vp-p (typ.) and duty of 43% (typ.) is output.
8	X-RAY	Over-voltage protection circuit.
9	FBP IN	Flyback pulse input for organizing the horizontal AFC circuit.
10	SYNC. OUT	Sync. signal output.
11	GND	Ground.
12	-Y OUT	-Y signal output.
13	R - Y OUT	Color-difference signal output.
14	G - Y OUT	
15	B - Y OUT	
16	R IN	OSD signal input.
17	G IN	
18	B IN	
19	KILLER	Connect a capacitor for killer filter.
20	APC FILTER	Connect the APC filter.
21	XTAL	Connect the crystal resonator for 3.58 MHz VCXO.
22	TINT	Tint control terminal.
23	COLOR	Color control terminal.
24	CONTRAST	Contrast control terminal.
25	BRIGHT	Brightness adjustment terminal.
26	PICTURE	Picutre quality adjustment terminal.
27	VCC	Apply power supply voltage.
28	ACC	Connect the ACC filter.
29	CHROMA IN	Chroma input terminal.
30	Y CLAMP	Connect the filter for Y clamp.
31	DL AUTO ADJ	Connect the filter (capacitor) for the delayed time auto-adjustment circuit of the internal delay line.
32	BLACK PEAK HOLD	Terminal to control the black expansion gain of the black expansion circuit. According to the resistance connected between this terminal and GND, the area of black having the same potential as the pedestal can be changed. The smaller is the resistance value, the larger the area. By setting this terminal above 5 V or by connecting it to Vccn via a resistance, the black expansion circuit can be deactivated.
33	Y IN	Y signal (negative-synchronous 1.0Vp-p) input. When contrast is maximumed, 4.0 Vp-p at -Y terminal is obtained.
34	BLACK EXPANSION	Terminal to determine the start of black expansion When the applied voltage is V_{52} and the terminal voltage when the video signal of 100IRE is supplied to the Y input is Vin (Vp-p), the start point (Vst) of black expansion is obtained by the following expression. $\mathrm{Vst} = \frac{V_{52}-3.5}{\mathrm{Vin}} \times 40\ (\mathrm{IRE})$
35	DC ADJ	Terminal to compensate for the DC transmission rate (TDC), which is obtained with the following expression. $T_{DC} = \frac{5K\Omega}{5k\Omega + R} \times 30 + 100\ (\%)$ The smaller is the external resistance R, the larger the compensation. With the terminal open, the signal of which the sync is deleted and the black is expanded can be monitored.
36	SYNC.SEP. IN	Sync. sep. circuit input terminal. Input video signal of the negative-synchronous.

6.11 SBX1709-01 (IC901)

• Digital Comb Filter (PAL/NTSC/SECAM)

Outline

This adaptive in-field comb filter for VTR/TV is a function-block HIC which performs Y/C separation by digital processing and conforms to composite video signals of PAL, NTSC and SECAM systems.

Features

- Y/C separation mode
  In-fieled Y/C separation mode by adaptive processing for NTSC and PAL systems and BPF separation for SECAM system.
  Vertical and horizontal correlation circuits (bands switchable).
- Playback mode
  Y-comb filter for VTR
  The depth of the filter can be switched.
  Built-in residual-chroma elimination circuit.
  (the filter depth can be switched).
  Built-in dropout compensation circuit.
  Y-noncorrelation pulse output.
- Built-in 8-bit A/D and D/A converters.
- Sampling frequency of 4fsc.
- Built-in 4-time PLL for clock generation (the external clock input is also accepted).
- Built-in clamp function (effective when a clamp pulse is available), which can be turned on and off.
- PAL/NTSC/SECAM mode selectable
- Comb mode/through mode selectable

● Pin Function

Note : This unit is used with the modes marked with * 1 .

No.	Pin Name	I/O	Function
1	V IN	I	Composite video signal input.
2	A GND	—	Analog GND.
3	A VDD	—	Analog +5V power supply.
4	CLAMP	I	Clamp pulse input.
5	PL / NT	I	Switch the PAL and NTSC modes. *1 Low : NTSC mode , High : PAL mode
6	D VDD	—	Digital +5V power supply.
7	D GND	—	Degital GND.
8	CLK	I	Input terminal of a 4fsc clock which is synchronized with the composite video signal. At NTSC = 14.31818 MHz , At PAL = 17.73447 MHz.
9	S. C. IN	I	Sub-carrier input. At NTSC = 3.579545 MHz , At PAL = 4.433618 MHz
10	CLKM	I	Switch the external and internal clock input. *1 Low : To use the clock which is obtained by multiplying the subcarrier supplied from S.C. IN (pin 9) by 4 using the built-in PLL. High : To use the 4fsc clock supplied from CLK (pin 8).
11	IGPC	I	Time constant setting terminal of VCO control voltage.
12	D. O.	I	Dropout correction pulse input. Dropout correction mode for High level.
13	YC /PB	I	Switch the Y/C separation mode and playback mode (for VTR). *1 Low : Y/C separation mode , High : Playback mode
14	C VREF		Set the full scale value of C signal output.
15	C OUT	O	• At Y/C separation mode : C signal output. *1 • At playback mode : Y signal output without the residual chroma elimination process through the Y comb filter.
16	Y OUT	O	• At Y/C separation mode : Y signal output. *1 • At playback mode : Y signal output without the residual chroma elimination process through the Y comb filter.
17	Y REF	—	Set the full scale value of Y signal output.
18	THR	I	• Set the forced through at Y/C separation mode. Low : Comb filter mode. *1 High : The input composite signal is output from the Y output terminal (pin 16) being delayed for the delay time of the Y output. The C signal obtained through Y/C separation is directly sent to the C output terminal (pin 15). • Fix the Low at the playback mode.

No.	Pin Name	I/O	Function
19	MSY 1	I	• Set the depth of the Y-comb filter in playback mode. Variable between 0 and -18 dB. *1 • Fixed to Low in Y/C separation mode.
20	MSY 2	I	
21	MSY 3	I	
22	MSY 4	I	
23	VCM	I	Switch the vertical correlation circuit ON/OFF. • At Y/C separation mode Low : BPF separation. *1 High : BPF + Comb separation. BPF separation is performed for SECAM system. • At Playback mode Low : BPF (Residual-chroma elimination circuit) High : BPF + Comb
24	LIM	I	Set the limitter level for Y signal comb filter. Set Low level (*1) at Y/C separation mode and High level at Playback mode.
25	MSC 1	I	*1 • At Y/C separation mode : Switch the horizontal filter of the edge section. • At Playback mode : Switch the filter depth of the residual-chroma elimination circuit.
26	MSC 2	I	
27	BASO	O	• At Playback mode: Y signal uncorrelation pulse output. Set to Open or Low in Y/C separation mode as it is internally pulled down. *1 • At Y/C separation mode : Open.
28	$\overline{\text{CLE}}$	I	Switch the internal clamp function's ON/OFF. Low : Clamp function is ON. High : Clamp function is OFF.
29	AD VREF	—	Set the clamp reference voltage.
30	VRT	—	Set the A/D input reference voltage TOP.

Table 1. Set the horizontal filter at Y/C separation mode

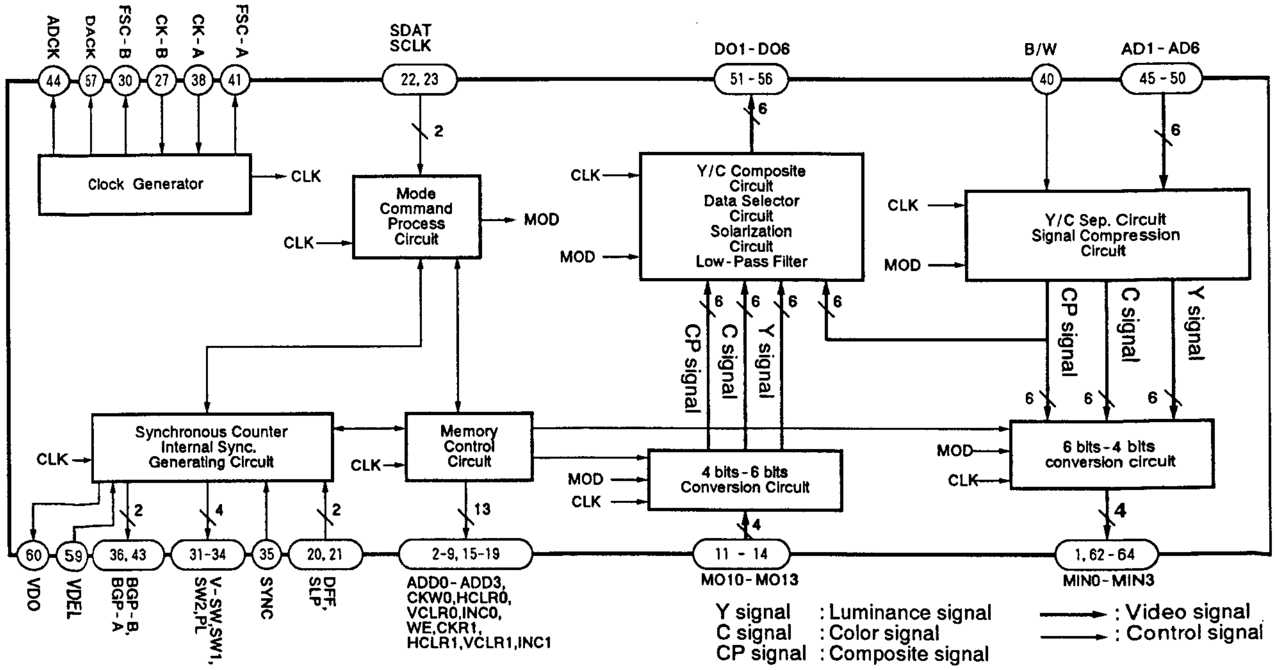
Pin No.	26	25	Bandpass
Pin Name	MSC 2	MSC 1	
Edge section at Y/C separation mode	L	L	Narrow
	L	H	↓
	H	L	
	H	H	Wide *2

*2 : This unit is set to this bandpass setting.

6.12 MB86153BPF (IC704)

• Digital Special Effect controller for TV/VTR

● Block Diagram


ADCK
DACK
FSC-B
CK-B
CK-A
FSC-A
44
57
30
27
38
41
SDAT
SCLK
22, 23
DO1-DO6
51-56
B/W
40
AD1-AD6
45-50
Clock Generator
CLK
Mode Command Process Circuit
MOD
Y/C Composite Circuit Data Selector Circuit Solarization Circuit Low-Pass Filter
Y/C Sep. Circuit Signal Compression Circuit
CP signal
C signal
Y signal
Synchronous Counter Internal Sync. Generating Circuit
Memory Control Circuit
4 bits-6 bits Conversion Circuit
6 bits-4 bits conversion circuit
2
4
6
13
60
59
36, 43
31-34
35
20, 21
2-9, 15-19
11 - 14
1, 62-64
VDO
VDEL
BGP-B, BGP-A
V-SW,SW1, SW2,PL
SYNC
DFF, SLP
ADD0-ADD3, CKW0,HCLR0, VCLR0,INC0, WE,CKR1, HCLR1,VCLR1,INC1
MO10-MO13
MIN0-MIN3

Y signal : Luminance signal
C signal : Color signal
CP signal : Composite signal
⟶ : Video signal
⟶ : Control signal

● Pin Function

No.	Pin Name	I/O	Function
1	MIN0	O	Video signal output (memory input)
2	CKW0		Shift signal output for write port of the memory. Perform the clock operation in spite of the write operation.
3	HCLR0		Address pointer control output for write port of the memory (Horizontal clear signal)
4	INC0		Address pointer control output for write port of the memory (Line inclement signal)
5	VCLR0		Address pointer control output for write port of the memory (Vertical clear signal)
6	WE		Input control signal for write port of the memory (Write enable signal)
7	HCLR1		Address pointer control for read port of the memory (Horizontal clear signal)
8	INC1		Address pointer control for read port of the memory (Line inclement signal)
9	VCLR1		Address pointer control for read port of the memory (Vertical clear signal)
10	Vss	–	Ground (0V)
11	MO13	IT	Video signal input (memory output)
12	MO12		
13	MO11		
14	MO10		
15	CKR1	O	Shift signal output for read port of the memory. Perform the clock operation at the read operation only.
16	ADD2		Address preset output which are 4-bits binary data. It selects a free block among 16-division blocks of the write port.
17	ADD1		
18	ADD0		
19	ADD3		
20	DFF	ISM	Picture write timing count signal input at the slow mode.
21	SLP		Picture write timing signal input at the slow mode.
22	SCLK		Mode command serial clock input
23	SDAT		Mode command serial data input
24	RES		Reset input (When "L" level is input, reset the internal circuit and it becomes analog through mode. Input "L" level when turning the power on.)
25	TEST	IC	Test terminal (+5V)
26	VDD	–	+5V power supply voltage
27	CK-B	IC	4fsc input for the main-picture
28	CK-B0	O	4fsc amp. output for the main-picture
29	Vss	–	Ground (0V)
30	FSC-B	O	fsc output for the main-picture (PLL input signal)
31	SW1	O	Switching control of the main and sub pictures.
32	SW2		
33	V-SW		
34	PL	O	Picture in Picture mode indication output Picture in Picture mode : "L" Other mode : "H"
35	SYNC	IT	Composite sync. input of the main-picture
36	BGP-B	O	Burst gate pulse output for the main-picture (Color burst section : "L")
37	NC	–	No connection
38	CK-A	IC	4fsc input for the sub-picture
39	CK-A0	O	4fsc amp. output for the sub-picture
40	B/W	IT	Decision input of the color/black and white screen of the sub-picture
41	FSC-A	O	fsc output for the sub-picture (PLL input signal)
42	Vss	–	Ground (0V)
43	BGP-A	O	Burst gate pulse output for the sub-picture (Color burst section : "L")
44	ADCK		Clock output for A/D conveter
45	AD1	IT	MSB
46	AD2		
47	AD3		Video signal input (A/D converter output)
48	AD4		
49	AD5		
50	AD6		LSB
51	DO6	O	LSB
52	DO5		
53	DO4		Video signal output (D/A converter input)
54	DO3		
55	DO2		
56	DO1		MSB
57	DACK		Clock output for D/A converter
58	VDD	–	+5V power supply voltage
59	VDEL	ISM	Interlace control input
60	VD0	O	Interlace control output
61	Vss	–	Ground (0V)
62	MIN3	O	Video signal output (Memory input)
63	MIN2		
64	MIN1		

Note;
IT : TTL interface input
IC : CMOS interface input
ISM : Schmitt trigger input

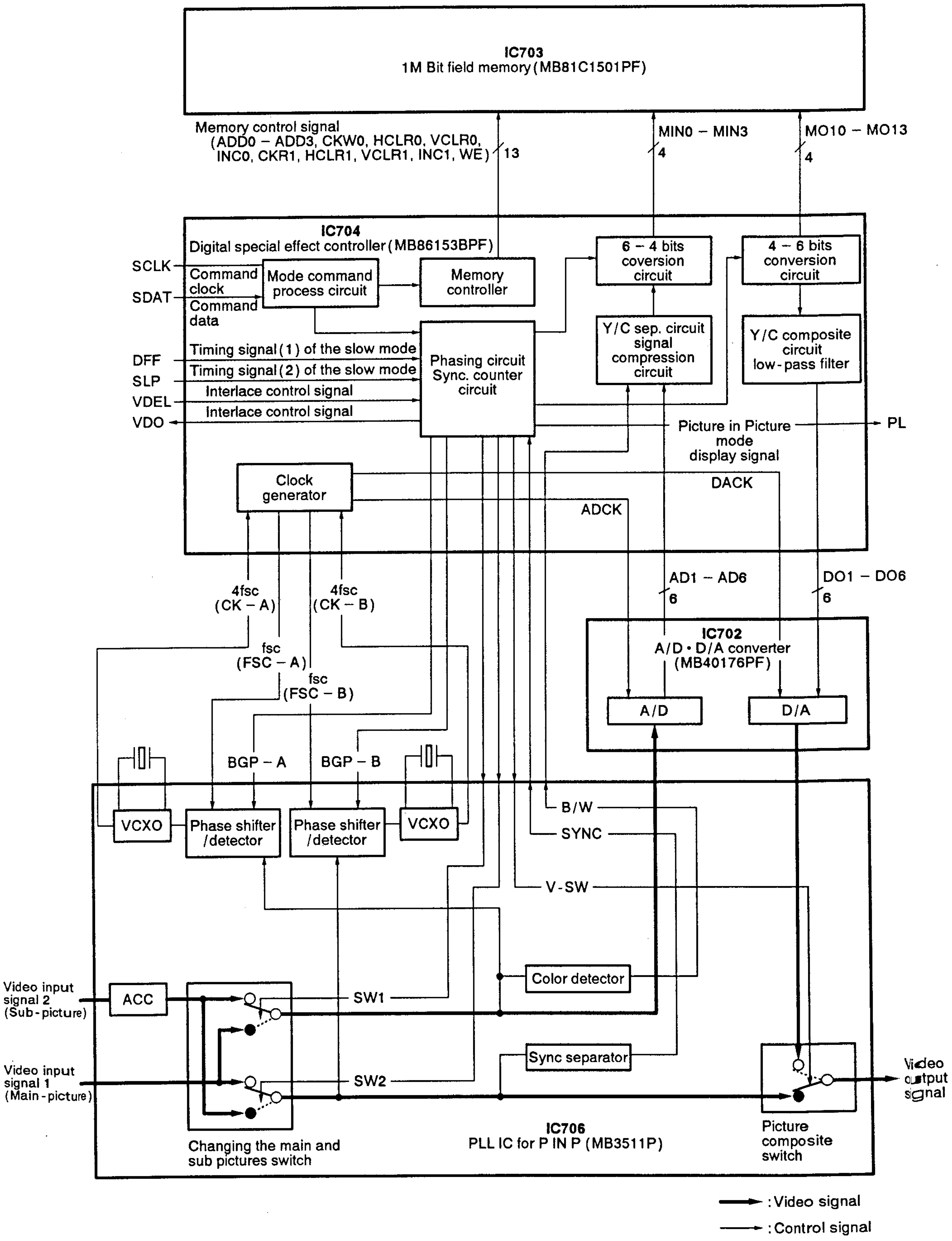

IC703
1M Bit field memory (MB81C1501PF)
Memory control signal
(ADD0 – ADD3, CKW0, HCLR0, VCLR0,
INC0, CKR1, HCLR1, VCLR1, INC1, WE)
13
MIN0 – MIN3
4
MO10 – MO13
4
IC704
Digital special effect controller (MB86153BPF)
SCLK
SDAT
Command clock
Command data
Mode command process circuit
Memory controller
6 – 4 bits coversion circuit
4 – 6 bits conversion circuit
Y/C sep. circuit signal compression circuit
Y/C composite circuit low-pass filter
DFF
SLP
VDEL
VDO
Timing signal (1) of the slow mode
Timing signal (2) of the slow mode
Interlace control signal
Interlace control signal
Phasing circuit Sync. counter circuit
Picture in Picture mode display signal
PL
Clock generator
DACK
ADCK
4fsc (CK – A)
4fsc (CK – B)
fsc (FSC – A)
fsc (FSC – B)
AD1 – AD6
6
DO1 – DO6
6
IC702
A/D • D/A converter
(MB40176PF)
A/D
D/A
BGP – A
BGP – B
VCXO
Phase shifter /detector
Phase shifter /detector
VCXO
B/W
SYNC
V-SW
Video input signal 2 (Sub-picture)
ACC
SW1
Color detector
Video input signal 1 (Main-picture)
SW2
Sync separator
Video output signal
Changing the main and sub pictures switch
IC706
PLL IC for P IN P (MB3511P)
Picture composite switch
: Video signal
: Control signal

Fig. 6-4 IC correlation of the PINP section

7. REMOTE CONTROL UNIT

7.1 AXD1277(CU-SD062)

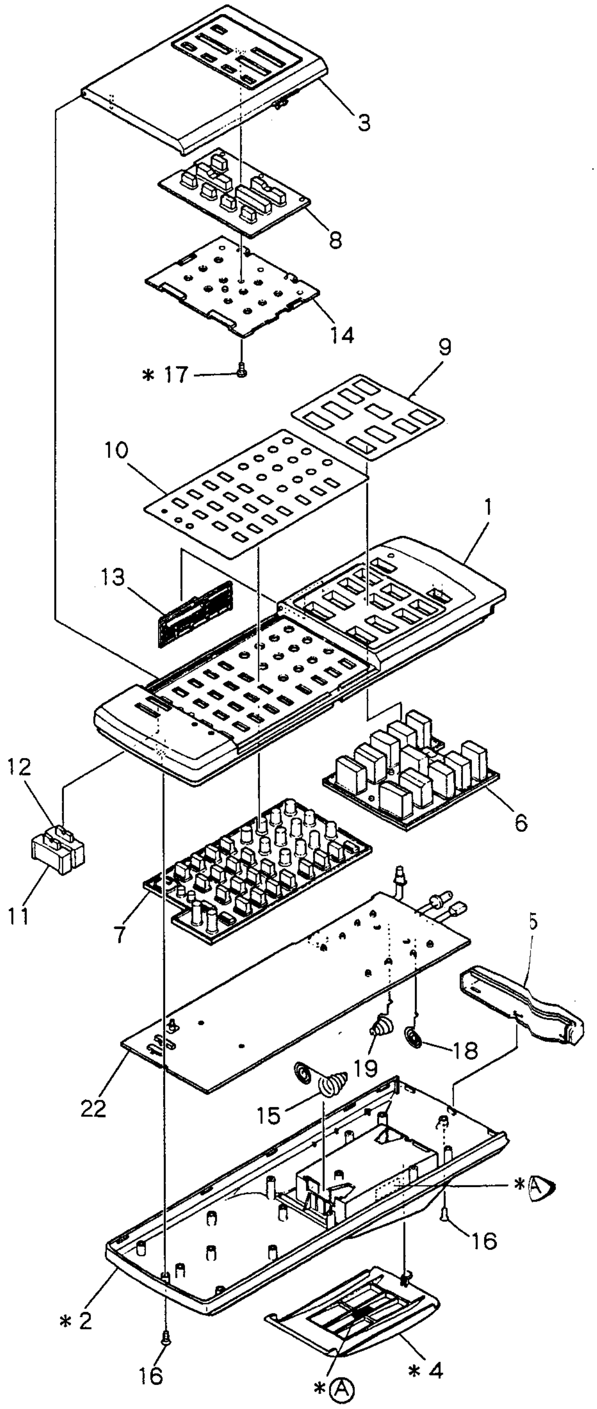
NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ◉ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

7.1.1 Exploded Views and Parts List

Parts List

Mark	No.	Description	Part No.
	1	CASE A	AZA1383
	2	CASE B	AZA1384
	3	DOOR	AZA1385
	4	BATTERY COVER	AZA1386
	5	FILTER	AZA1387
	6	RUBBER SHEET A	AZA1388
	7	RUBBER SHEET B	AZA1389
	8	RUBBER SHEET C	AZA1390
	9	NAME PLATE A	AZA1391
	10	NAME PLATE B	AZA1392
	11	KNOB A	AZA1393
	12	KNOB B	AZA1394
	13	KEY TOP	AZA1395
	14	SPACER	AZA1396
	15	SPRING	AZB1268
	16	TAPPING SCREW	AZB1368
	17	TAPPING SCREW	AZB1365
	18	SPRING(+)	AZB1366
	19	SPRING(-)	AZB1367
	20	CUSHION	AZE1090
	21	VINYL BAG	AZE1091
NSP	22	P.W.B	AZN2188



* : In the remote control units with a white seal attached to section Ⓐ, the following parts are used for No. 2, 4 and 17.
No. 2 : BATTERY COVER AZA1416
No. 4 : CASE B AZA1431
No. 17 : Not used.

7.1.2 PCB Parts List

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).
560 Ω → 56 × 10^1 → 561 .... RD1/8PM$\boxed{5}\boxed{6}\boxed{1}$*J*
47k Ω → 47 × 10^3 → 473 .... RD1/4PS$\boxed{4}\boxed{7}\boxed{3}$*J*
0.5 Ω → 0R5 .... RN2H$\boxed{0}\boxed{R}\boxed{5}$*K*
1 Ω → 010 .... RS1P$\boxed{0}\boxed{1}\boxed{0}$*K*
Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).
5.62k Ω → 562 × 10^1 → 5621 .... RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$*F*

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1	IC	AZC1581
	Q1, 2	TRANSISTOR	2SD1664
	Q3	VOLTAGE DETECTOR	AZC1582
	Q4	CHIP TRANSISTOR	2SC3265
	D1	LED	SE303A-C
	D2	DIODE	SPS-503C-3
	D3	LED	AZC1224
	D4-6	CHIP DIODE	RLS73
	D7-15	LED	AZC1583
SWITCHES			
	SW1	SLIDE SWITCH	AZS1073
	SW2	SLIDE SWITCH	AZS1074
	SW3	DETECTOR SW	AZS1123
	SW4	PUSH SWITCH	AZS1122
CAPACITORS			
	C1, 3	ELECTR. CAPACITOR	CEAS101M10
	C2	ELECTR. CAPACITOR	CEAS470M25
	C4-7	CERAMIC CAPACITOR	CKCYX104M25
	C8	CHIP CAPACITOR	CCSQCH101J50
RESISTORS			
	R1	CARBON FILM RESISTOR	RD1/4PM020J
	R2, 3	CARBONFILM RESISTER	RD1/8PM221J
	R4	CARBONFILM RESISTER	RD1/8PM104J
	R5, 13	CARBONFILM RESISTER	RD1/8PM333J
	R6, 8	CARBONFILM RESISTOR	RD1/8PM472J
	R7	CARBONFILM RESISTER	RD1/8PM822J
	R9	CARBONFILM RESISTER	RD1/8PM913J
	R10	CARBONFILM RESISTER	RD1/8PM823J
	R11, 12	CARBONFILM RESISTER	RD1/8PM561J
	R14-22	CARBONFILM RESISTER	RD1/8PM271J
OTHERS			
	Z1	CERAMIC RESONATOR (4.0MHz)	FCR4.0MC3

7.1.3 Schematic Diagram

Note: (Type 2)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance:(F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF) /voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ▭ :DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ← mA: DC current at no input signal unless otherwise noted.
7. **OTHERS**
   - ●➡ : Signal route.
   - ● ⊘ : Adjustment point.
   - ● ▼(Red) : Measurement point.
   - ● The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

SW1 :LD – VCR1 – VCR2
SW2 :TV – ETC
SW3 :DOOR ON – OFF
SW4 :RESET
K17 :POWER (TV POWER)
K18 :TV
K19 :VIDEO1
K20 :VIDEO2
K21 :MUTE
K22 :LD
K23 :VIDEO3
K26 : –] CH
K27 : +]
K31 : +] VOL
K32 : –]
K65 :LEARN
K66 :EDIT

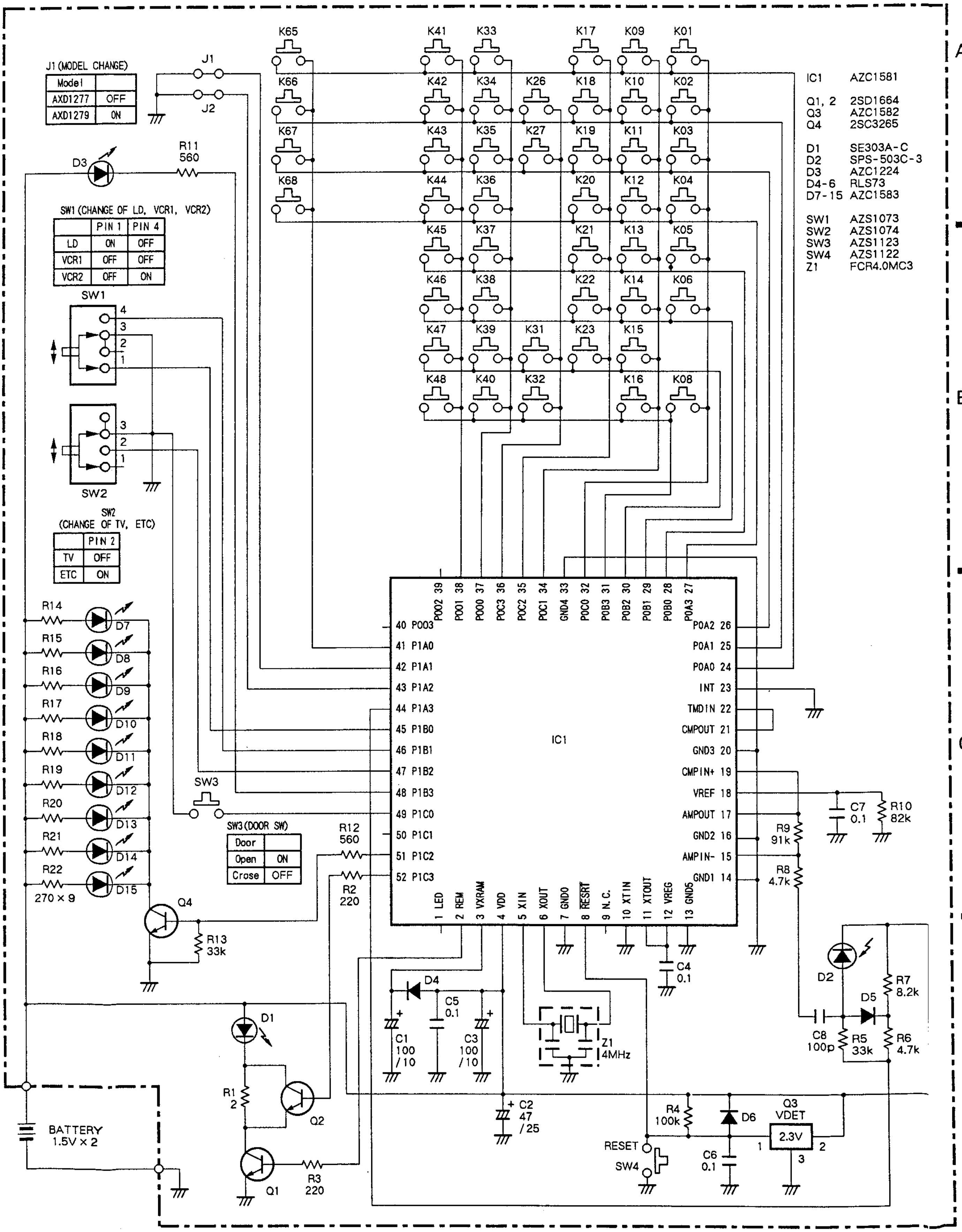
At the SW3 OFF position (Door closed)

K02 :POWER (LD/VIDEO POWER)
K06 : ⏮ ((–)] VCR CH)
K08 : ⏭ ((+)]
K09 : ◀◀ (⏪)
K10 :REC(1/2)
K11 : ▶▶ (⏩)
K12 :REC(2/2)
K13 : ▶ (1/2)
K14 : ❚❚ / ▶❚◀
K15 : ▶ (1/2)
K16 : ■ / ⏏

At the SW3 ON position (Door opened)

K01 :1
K02 :4
K03 :2
K04 :5
K05 :3
K06 :6
K08 :SLEEP
K09 :7
K10 :0
K11 :8
K12 :CH SCAN
K13 :9
K14 :CH RETURN
K15 :DISPLAY
K16 :MTS
K33 :P IN P
K34 :SWAP
K35 :INPUT
K36 :SHIFT
K37 :MULTI
K38 :STROBE
K39 :STILL
K40 :STADIUM/SS
K41 STD/AV MEM
K42 :PICTURE
K43 :DPO
K44 : ◀ (ADJUST)
K45 :VNR
K46 : ▶ (ADJUST)
K47 :DOLBY MODE
K48 :SOUND
K67 :M. CLR
K68 :LIGHT

REMOTE CONTROL UNIT (AXD1277) (CU-SD062)


K65
K66
K67
K68
K41
K42
K43
K44
K45
K46
K47
K48
K33
K34
K35
K36
K37
K38
K39
K40
K26
K27
K31
K32
K17
K18
K19
K20
K21
K22
K23
K09
K10
K11
K12
K13
K14
K15
K16
K01
K02
K03
K04
K05
K06
K08
J1
J2
D3
R11
560
SW1
4
3
2
1
SW2
3
2
1
R14
R15
R16
R17
R18
R19
R20
R21
R22
270 × 9
D7
D8
D9
D10
D11
D12
D13
D14
D15
Q4
R13
33k
SW3
R12
560
R2
220
IC1
40 P003
41 P1A0
42 P1A1
43 P1A2
44 P1A3
45 P1B0
46 P1B1
47 P1B2
48 P1B3
49 P1C0
50 P1C1
51 P1C2
52 P1C3
P002 39
P001 38
P000 37
P0C3 36
P0C2 35
P0C1 34
GND4 33
P0C0 32
P0B3 31
P0B2 30
P0B1 29
P0B0 28
P0A3 27
P0A2 26
P0A1 25
P0A0 24
INT 23
TMDIN 22
CMPOUT 21
GND3 20
CMPIN+ 19
VREF 18
AMPOUT 17
GND2 16
AMPIN- 15
GND1 14
1 LED
2 REM
3 VXRAM
4 VDD
5 XIN
6 XOUT
7 GND0
8 RESRT
9 N.C.
10 XTIN
11 XTOUT
12 VREG
13 GND5
C7
0.1
R10
82k
R9
91k
R8
4.7k
C4
0.1
D2
R7
8.2k
D5
C8
100p
R5
33k
R6
4.7k
D4
C5
0.1
C1
100
/10
C3
100
/10
Z1
4MHz
C2
47
/25
D1
R1
2
Q2
Q1
R3
220
R4
100k
D6
Q3
VDET
2.3V
1
2
3
RESET
SW4
C6
0.1
BATTERY
1.5V × 2
A
B
C
D

J1 (MODEL CHANGE)

Model	
AXD1277	OFF
AXD1279	ON

SW1 (CHANGE OF LD, VCR1, VCR2)

	PIN 1	PIN 4
LD	ON	OFF
VCR1	OFF	OFF
VCR2	OFF	ON

SW2 (CHANGE OF TV, ETC)

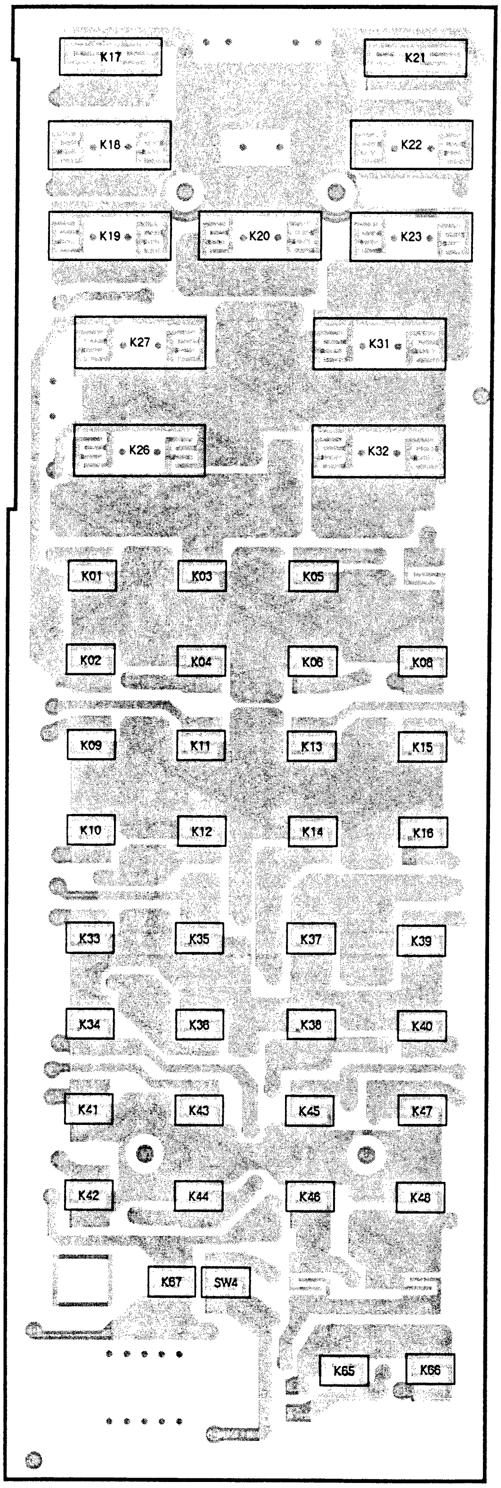
	PIN 2
TV	OFF
ETC	ON

SW3 (DOOR SW)

Door	
Open	ON
Crose	OFF

IC1	AZC1581
Q1, 2	2SD1664
Q3	AZC1582
Q4	2SC3265
D1	SE303A-C
D2	SPS-503C-3
D3	AZC1224
D4-6	RLS73
D7-15	AZC1583
SW1	AZS1073
SW2	AZS1074
SW3	AZS1123
SW4	AZS1122
Z1	FCR4.0MC3

7.1.4 PCB Pattern


K17
K21
K18
K22
K19
K20
K23
K27
K31
K26
K32
K01
K03
K05
K02
K04
K06
K08
K09
K11
K13
K15
K10
K12
K14
K16
K33
K35
K37
K39
K34
K36
K38
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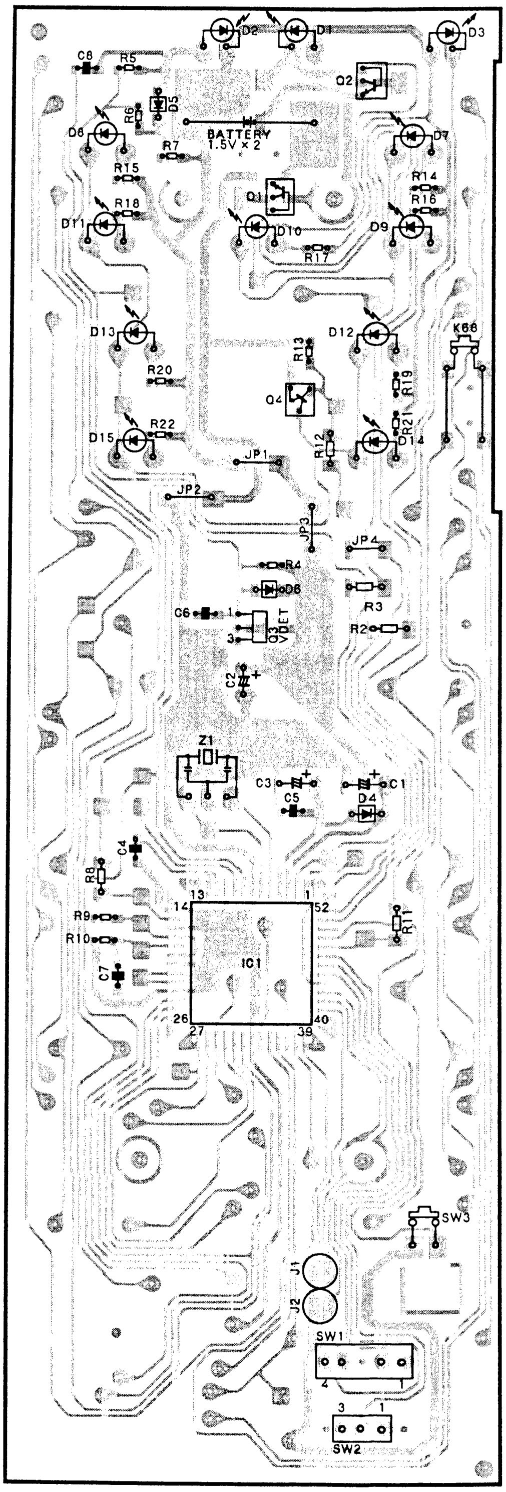
K41
K43
K45
K47
K42
K44
K46
K48
K67
SW4
K65
K66


D2
D1
D3
C8
R5
Q2
R6
D5
D8
BATTERY
1.5V × 2
R7
D7
R15
R14
Q1
R18
R16
D11
D10
D9
R17
D13
D12
K66
R13
R20
R19
Q4
D15
R22
R21
D14
R12
JP1
JP2
JP3
JP4
R4
D6
C6
1
3
Q3
VDET
R3
R2
C2
Z1
C3
C1
C5
D4
C4
R8
13
1
14
52
R9
R10
IC1
R11
C7
26
27
39
40
SW3
J1
J2
SW1
4
1
3
1
SW2

7.2 AXD1301

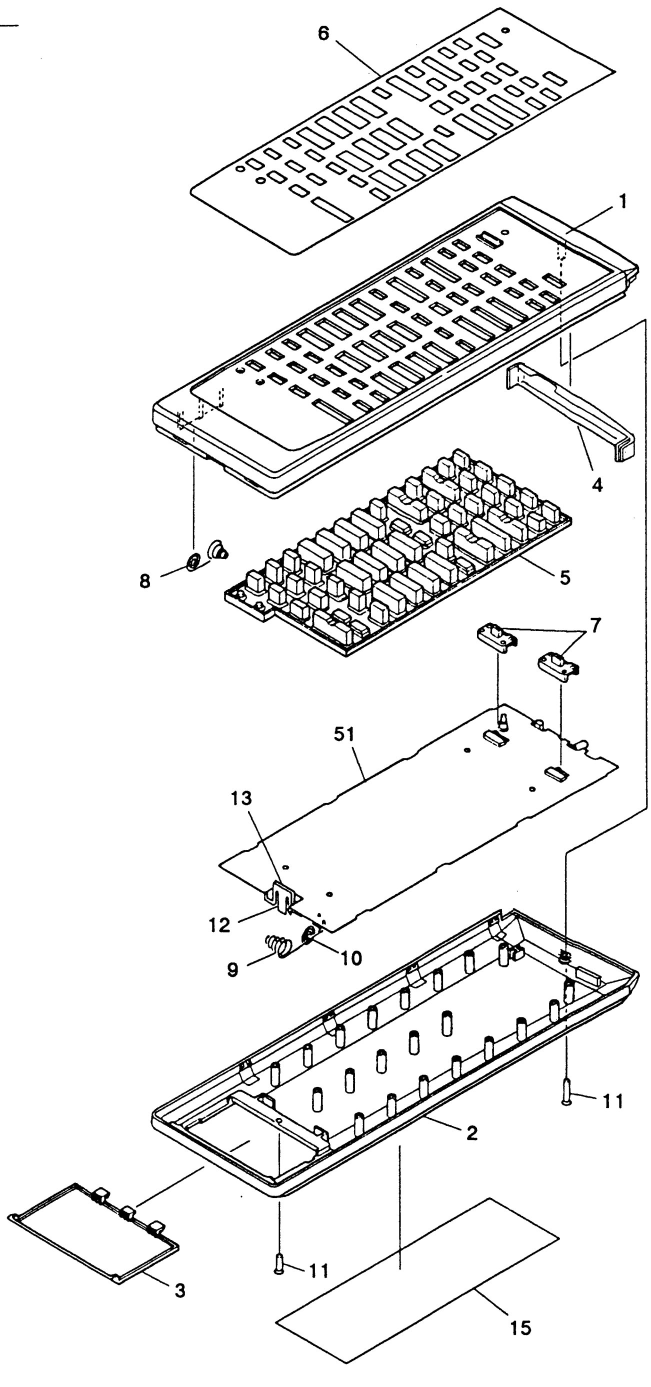
7.2.1 Exploded Views and Parts List

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

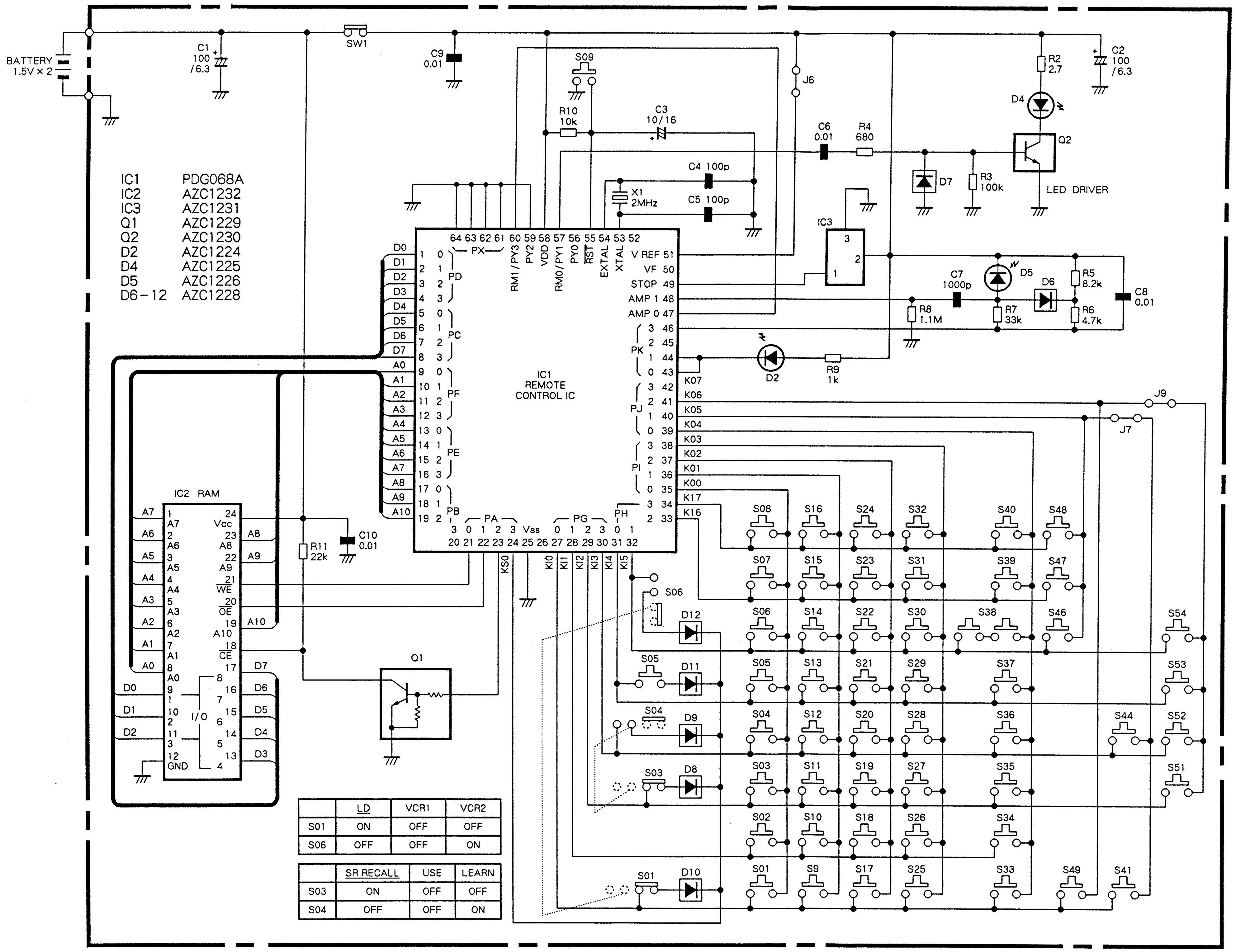
Parts List

Mark	No.	Description	Part No.
	1	Case(A)	AZA1289
	2	Case(B)	AZA1290
	3	Battery cover	AZN1970
	4	Filter	AZA1139
	5	Rubber sheet	AZA1417
	6	Name plate	AZA1418
	7	Knob(A)	AZA1142
	8	Spring	AZB1268
	9	Spring	AZB1269
	10	Spring	AZB1270
	11	Screw	AZA1146
	12	REMOTE POWER (SW1-A)	AZS1084
	13	REMOTE POWER (SW1-B)	AZS1083
	14	• • • • •	
	15	Label	AZA1321
NSP	51	PCB board	AZW1088



7.2.2 Schematic Diagram

REMOTE CONTROL UNIT (AXD1301)


BATTERY 1.5V × 2
C1 100 /6.3
SW1
C9 0.01
S09
R10 10k
C3 10/16
J6
C6 0.01
R4 680
R2 2.7
D4
Q2
LED DRIVER
C2 100 /6.3
C4 100p
C5 100p
X1 2MHz
D7
R3 100k
IC3
C7 1000p
D5
D6
R5 8.2k
C8 0.01
R8 1.1M
R7 33k
R6 4.7k
D2
R9 1k
IC1 PDG068A
IC2 AZC1232
IC3 AZC1231
Q1 AZC1229
Q2 AZC1230
D2 AZC1224
D4 AZC1225
D5 AZC1226
D6−12 AZC1228
IC1 REMOTE CONTROL IC
V REF VF STOP AMP 1 AMP 0
RM1/PY3 PY2 VDD RM0/PY1 PY0 RST EXTAL XTAL
PX PD PC PF PE PB PA PG PH PK PJ PI Vss
K07 K06 K05 K04 K03 K02 K01 K00 K17 K16
KS0 KI0 KI1 KI2 KI3 KI4 KI5
IC2 RAM
A7 A6 A5 A4 A3 A2 A1 A0 D0 D1 D2
Vcc A8 A9 WE OE A10 CE GND I/O
R11 22k
C10 0.01
Q1
J9 J7
S06 D12 S05 D11 S04 D9 S03 D8 S01 D10
S01–S54
LD VCR1 VCR2
S01 ON OFF OFF
S06 OFF OFF ON
SR RECALL USE LEARN
S03 ON OFF OFF
S04 OFF OFF ON

SWITCHES :(The underlined indicates the switch position.)

	LD	VCR1	VCR2
S01	ON	OFF	OFF
S06	OFF	OFF	ON

	SR RECALL	USE	LEARN
S03	ON	OFF	OFF
S04	OFF	OFF	ON

S05 : M−CLR
S09 : RESET

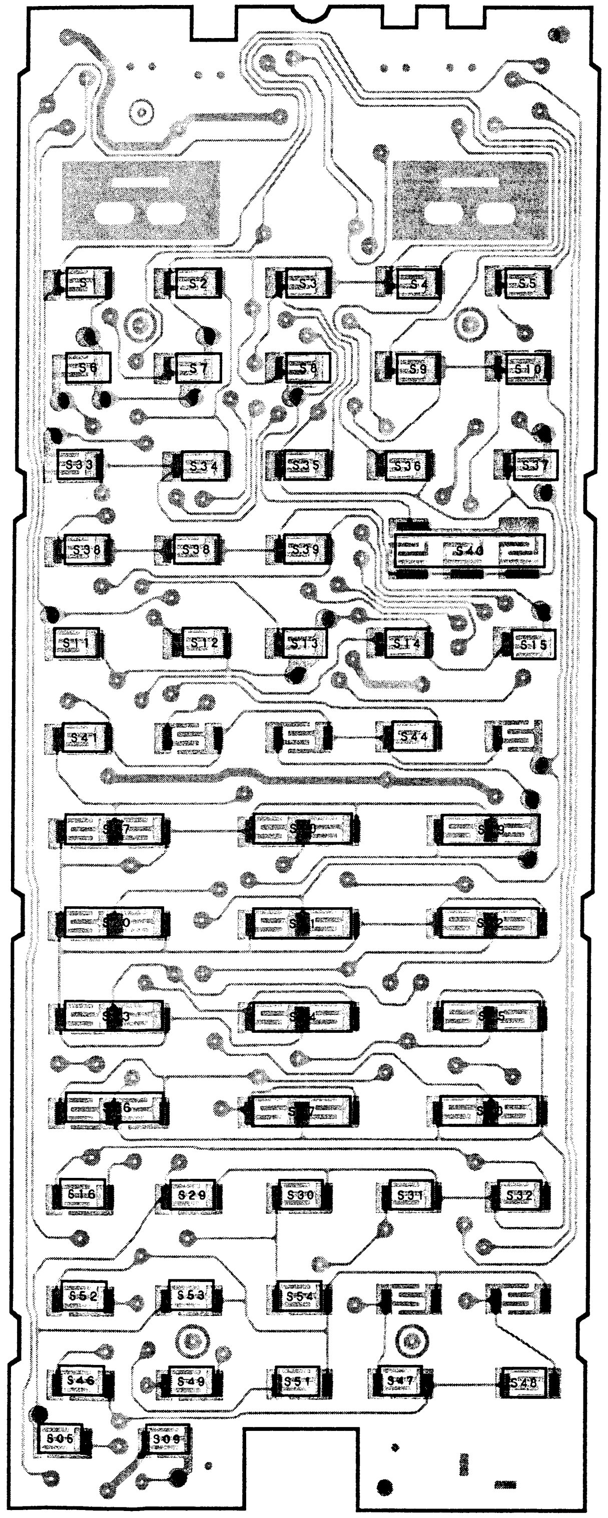
S1 : TV ┐
S2 : LD │ POWER
S3 : VCR1 │
S4 : VCR2 ┘
S5 : SLEEP
S6 : TV ┐
S7 : LD │
S8 : VIDEO 1 │ INPUT SELECTOR
S9 : VIDEO2 │
S10 : VIDEO3 ┘
S11 : − ┐ TV CHANNEL
S12 : + ┘
S13 : MUTE
S14 : − ┐ VOLUME
S15 : + ┘
S16 : P IN P
S17 : 1
S18 : 2
S19 : 3
S20 : 4
S21 : 5
S22 : 6
S23 : 7
S24 : 8
S25 : 9
S26 : 0
S27 : CH SCAN

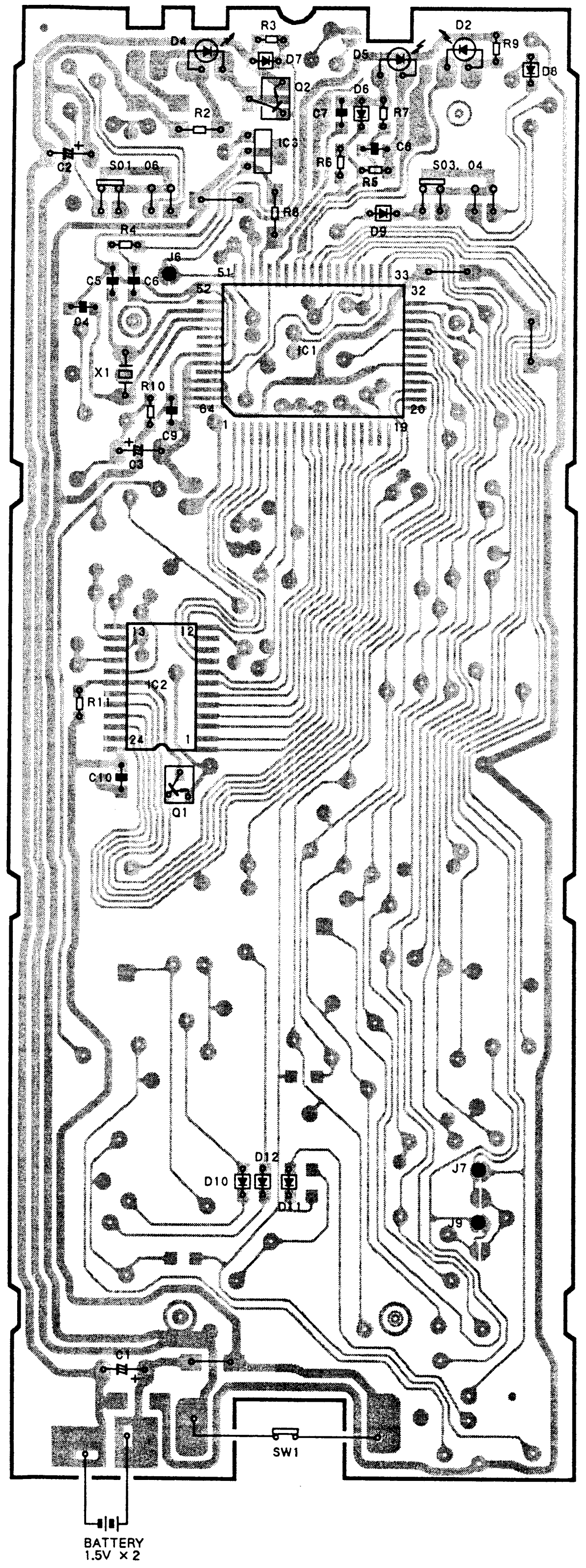
S28 : CH RETURN
S29 : INPUT
S30 : MULTI
S31 : STILL
S32 : DPO
S33 : ⏮/VCR CH − ┐
S34 : ⏭/VCR CH + │
S35 : ❚❚/▶❚◀ │
S36 : ◀◀/(◀◀) │
S37 : ▶▶/(▶▶) │
S38 : ····/REC │ LD/VCR
S39 : ■/⏏ │
S40 : ▶ │
S41 : MTS │
S44 : DISPLAY │
S46 : STD/AV MEM │
S47 : ◀ ┐ ADJUST ┘
S48 : ▶ ┘
S49 : PICTURE
S51 : SOUND
S52 : SWAP
S53 : SHIFT
S54 : STROBE

NOTE :

—▭— : Indicates a chip resistor.
—▮— : Indicates a chip capacitor.
⊠ : Indicates a chip transistor.
—▶|— : Indicates a chip diode.

7.2.3 PCB Pattern


S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S33
S34
S35
S36
S37
S38
S39
S40
S11
S12
S13
S14
S15
S41
S44
S16
S29
S30
S31
S32
S52
S53
S54
S46
S49
S51
S47
S48
S05
S06


D4
R3
D7
D5
D2
R9
D8
Q2
D6
R7
C7
C8
R2
IC3
R6
R5
C2
S01, 06
S03, 04
R8
D9
R4
J6
S1
S2
C5
C6
D4
33
32
IC1
X1
R10
C4
C9
Q3
20
19
1
13
12
IC2
R1
24
1
C10
Q1
D12
D10
D11
J7
J9
C1
SW1
BATTERY
1.5V × 2

7.2.4 PCB Parts List

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10^1 → 561 ………… RD1/8PM$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ………… RD1/4PS$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ………… RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 010 ………… RS1P$\boxed{0}\boxed{1}\boxed{0}$K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ………… RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC1	PDG068A
	IC2	AZC1232
	IC3	AZC1231
	Q1	AZC1229
	Q2	AZC1230
	D2	AZC1224
	D4	AZC1225
	D5	AZC1226
	D6-D12	AZC1228

SWITCHES

Mark	Symbol & Description	Part No.
	S01,S03,S04,S06 Slide switch (SR RECALL/USE/LEARN, VDP/VCR/AUX)	AZS1074
	SW1-A (REMOTE POWER)	AZS1084
	SW1-B (REMOTE POWER)	AZS1083

CAPACITORS

Mark	Symbol & Description	Part No.
	C1,C2 (100μF/6.3V)	AZC1253
	C3 (10μF/16V)	AZC1254
	C4,C5 (100pF)	AZC1222
	C6,C8-C10 (0.01μF)	AZC1220
	C7 (1000pF)	AZC1221

RESISTORS

Mark	Symbol & Description	Part No.
	R2 (2.7Ω)	AZC1219
	R3 (100kΩ)	AZC1210
	R4 (680Ω)	AZC1217
	R5 (8.2kΩ)	AZC1214
	R6 (4.7kΩ)	AZC1215
	R7 (33kΩ)	AZC1211
	R8 (1.1MΩ)	AZC1261
	R9 (1kΩ)	AZC1216
	R10 (10kΩ)	AZC1213
	R11 (22kΩ)	AZC1212

OTHERS

Mark	Symbol & Description	Part No.
	X1 (2.0MHz)	AZC1223

7.3 AXD1284 AND AXD1285
Parts List

Mark	Symbol & Description	Part No.
	BATTERY COVER	AZN2187

8. ASSEMBLY AND REMOTE CONTROL UNIT LISTS

8.1 PCB ASSEMBLY AND REMOTE CONTROL UNIT

Mark		Family	65	67	64	63	62	61		PRO	—	—	65	63	62
		Type	KUX1C								S		KCX1C		
Mark	Model No.	50" size	SD-P5065-K SD-P5065-Q	SD-P5067-Q	SD-P5064-K SD-P5064-Q	·····	SD-P5062-K SD-P5062-Q	·····	·····	PRO-96	SD-P5006	·····	SD-P5065-K	·····	·····
		45" size	SD-P4565-K SD-P4565-Q	·····	SD-P4564-K SD-P4564-Q	·····	SD-P4562-K SD-P4562-Q	SD-P4561-Q	·····	PRO-76	·····	·····	·····	·····	SD-P4562-K
		55" size	SD-P5565-K	SD-P5567-Q	SD-P5564-K SD-P5564-Q	·····	·····	·····	·····	PRO-106	·····	·····	SD-P5565-K	·····	·····
		40" size	·····	·····	·····	SD-P4063-K	·····	·····	SD-P4061-K	·····	·····	SD-P4006	·····	SD-P4063-K	·····
	PCB Assembly	TUNER-VIDEO assembly	AWV1246	←	AWV1252	AWV1255	AWV1261	AWV1265	AWV1287	AWV1269	AWV1271	AWV1255	AWV1270	AWV1267	AWV1268
☆		POWER SUPPLY assembly	AWV1281	←	←	AWV1289	AWV1290	←	AWV1289	AWV1281	AWV1295	←	AWV1294	AWV1292	AWV1293
		CONVERGENCE assembly	AWZ4178	←	←	←	←	←	←	←	←	←	←	←	←
		R. CRT DRIVE assembly	AWZ4179	←	←	←	←	←	←	←	←	←	←	←	←
		G. CRT DRIVE assembly	AWZ4180	←	←	←	←	←	←	←	←	←	←	←	←
		B. CRT DRIVE assembly	AWZ4181	←	←	←	←	←	←	←	←	←	←	←	←
		VIDEO INPUT assembly	AWZ4183	←	AWZ4520	·····	·····	·····	·····	AWZ4183	AWZ4520	·····	AWZ4183	·····	·····
		AUDIO SELECTOR assembly	AWZ4185	←	←	←	←	←	←	←	←	←	←	←	←
		Y/C SELECTOR assembly	AWZ4186	←	AWZ4244	←	·····	·····	AWZ4244	AWZ4473	AWZ4244	←	AWZ4186	AWZ4244	·····
		PINP SELECTOR assembly	AWZ4188	←	←	←	←	·····	·····	AWZ4188	←	←	←	←	←
		AV I/O-PINP-Y/C SEP assembly	AWZ4182	←	AWZ4195	←	AWZ4240	AWZ4243	AWZ4546	AWZ4472	AWZ4195	←	AWZ4182	AWZ4195	AWZ4240
		REC MUTE assembly	AWZ4470	←	←	←	←	←	←	←	←	←	←	←	←
		W FRONT CONTROL assembly	AWZ4189	·····	AWZ4189	·····	·····	·····	·····	·····	AWZ4189	·····	AWZ4189	·····	·····
		RECEIVER assembly	AWZ4190	AWZ4233	AWZ4190	AWZ4233	AWZ4242	←	AWZ4233	←	AWZ4190	AWZ4233	AWZ4190	AWZ4233	AWZ4242
☆		V-AMP assembly	AWZ4191	←	←	←	←	←	←	←	←	←	←	←	←
		A CONNECTOR assembly	AWZ4211	←	←	←	←	←	←	←	←	←	←	←	←
		B CONNECTOR assembly	AWZ4212	←	←	←	←	←	←	←	←	←	←	←	←
		MICROCOMPUTER assembly	AWZ4231	←	←	←	←	←	←	←	←	←	←	←	←
		FRONT CONTROL assembly	·····	AWZ4232	·····	AWZ4232	AWZ4241	←	AWZ4232	AWZ4727	·····	AWZ4232	·····	AWZ4232	AWZ4241
		FRONT TERMINAL assembly	·····	AWZ4234	·····	AWZ4234	·····	·····	AWZ4234	AWZ4474	·····	AWZ4234	·····	AWZ4234	·····
		POWER AMP assembly	AWZ4193	←	←	·····	·····	·····	·····	·····	·····	·····	AWZ4193	·····	·····
		EXT. SP assembly	AWZ4194	←	←	·····	·····	·····	·····	AWZ4495	·····	·····	AWZ4194	·····	·····
		DOL. PRO. MOD.	AXQ1009	←	←	·····	·····	·····	·····	·····	·····	·····	AXQ1009	·····	·····
		LINE FILTER assembly	·····	·····	·····	·····	·····	·····	·····	·····	AWT1010	←	AWT1009	←	←
	Remote control unit		AXD1277 (CU-SD062)	←	←	AXD1301	AXD1284	AXD1285	AXD1286	AXD1279 (CU-SD063)	AXD1292 (CU-SD069)	AXD1302	AXD1277 (CU-SD062)	AXD1301	AXD1284

Note :
- This table lists the models that this service manual covers and those which will be available in the future. For information on other models, refer to the respective service manual.
- A ← mark corresponds to the same assembly as that shown in the left column.
- Parts marked by ☆ are important parts which relate to X-rays radiation.
  If any of these parts need to be replaced, always replace with specified parts.
- ▨ portion models and assemblies are applicable to this manual.

8.2 CRT ASSEMBLY R, G AND B

Mark	Type	KUX1C												
	Size	50"				45"				55"				40"
	Model No.	SD-P5065-K SD-P5065-Q SD-P5067-Q	SD-P5064-K SD-P5064-Q	SD-P5062-K SD-P5062-Q	PRO-96	SD-P4565-K SD-P4565-Q	SD-P4564-K SD-P4564-Q	SD-P4562-K SD-P4562-Q SD-P4561-Q	PRO-76	SD-P5565-K SD-P5567-Q	SD-P5564-K SD-P5564-Q	PRO-106	SD-P4063-K SD-P4061-K
☆	CRT assembly R	AWY1159	AWY1159	AWY1164	AWY1172	AWY1176	AWY1176	AWY1182	AWY1184	AWY1161	AWY1161	AWY1168	AWY1180
☆	CRT assembly G	AWY1167	AWY1556	AWY1163	AWY1167	AWY1175	AWY1178	AWY1179	AWY1175	AWY1167	AWY1156	AWY1167	AWY1179
☆	CRT assembly B	AWY1160	AWY1160	AWY1165	AWY1173	AWY1177	AWY1177	AWY1183	AWY1185	AWY1162	AWY1162	AWY1169	AWY1181

Mark	Type	S		KCX1C			
	Size	50"	40"	50"	45"	55"	40"
	Model No.	SD-P5006	SD-P4006	SD-P5065-K	SD-P4562-K	SD-P5565-K	SD-P4063-K
☆	CRT assembly R	AWY1159	AWY1152	AWY1159	AWY1182	AWY1161	AWY1180
☆	CRT assembly G	AWY1167	AWY1151	AWY1167	AWY1179	AWY1167	AWY1179
☆	CRT assembly B	AWY1160	AWY1153	AWY1160	AWY1183	AWY1162	AWY1181

Note :
- This table lists the models that this service manual covers and those which will be available in the future. For information on other models, refer to the respective service manual.
- Parts marked by ☆ are important parts which relate to X-rays radiation.
  If any of these parts need to be replaced, always replace with specified parts.
- ▨ portion models and assemblies are applicable to this manual.

PIONEER
The Art of Entertainment

PROJECTION MONITOR RECEIVER

SD-P5567
SD-P5565
SD-P5067
SD-P5065
SD-P4565

Operating Instructions

NTSC

'92 PROJECTION MONITOR RECEIVER ELECTRICAL INFORMATION

Thank you for purchasing the PIONEER Projection Monitor Receiver.
If you have not read the precautionary instructions enclosed with these operating instructions, please do so before proceeding.
After learning how to operate the Projection Monitor be sure to keep this manual handy for future reference.

While the official name of the product is the "PROJECTION MONITOR RECEIVER", for the sake of brevity the text refers to it as the "Projection Monitor" or 'simply' the "Monitor".

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground should be connected to the grounding system of the building, as close to the point of cable entry as practical.

CONTENTS

3 IMPORTANT NOTICE / IMPORTANT
4 PRELIMINARY INSTRUCTIONS
5 FEATURES
6 DOLBY SURROUND MODE
7 INSTALLATION
7 OPERATING PRECAUTIONS
8 FRONT PANEL FACILITIES
10 SYSTEM CONNECTION DIAGRAM
14 SYSTEM REMOTE CONTROL CONNECTIONS
14 ANTENNA CONNECTIONS
15 INSERTING BATTERIES IN THE REMOTE CONTROL UNIT
15 REMOTE CONTROL OPERATION RANGE
16 REMOTE CONTROL UNIT FACILITIES
30 HOW TO ALIGN COLOR CONVERGENCE
33 TV CHANNEL SELECTION
36 MULTI-CHANNEL TV SOUND (MTS)
37 HOW TO RELABEL INPUT DISPLAYS
38 TUNER PRESET
39 USING THE STATION LABEL FUNCTION
40 PICTURE AND SOUND ADJUSTMENT
41 AV MEMORY
42 DPO ADJUSTMENT
43 HOW TO TURN THE SYSTEM MODE FUNCTION ON AND OFF
44 TROUBLESHOOTING
45 CARE OF YOUR PROJECTION MONITOR
45 BLOCK DIAGRAM
46 SPECIFICATIONS

OPERATING PRECAUTIONS

DO NOT ALLOW STILL PICTURES OR PARTS OF PICTURES THAT DO NOT MOVE TO REMAIN ON THE SCREEN FOR AN EXTENDED LENGTH OF TIME. STILL IMAGES CAN ADVERSELY AFFECT YOUR PICTURE PROJECTION TUBES. SOME EXAMPLES OF STILL IMAGES ARE COMPUTERS, TELEVISION PROGRAMMING LOGOS AND VIDEO GAMES. IF STILL PICTURES CANNOT BE AVOIDED, REDUCE THE BRIGHTNESS AND CONTRAST LEVELS OF THE PICTURE TO MINIMIZE ANY DAMAGE THAT MIGHT OCCUR.

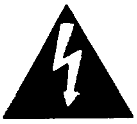
IMPORTANT NOTICE

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO WET LOCATIONS.

The model number and the serial number of this Projection Monitor are located on the rear panel.
Please write the serial number on the enclosed warranty card and keep it in a safe place for future reference.

NOTE:
There are no user serviceable parts inside the Projection Monitor.

IMPORTANT

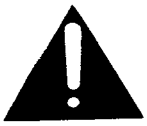


The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Notes for the PIP video processing functions

Use of the PIP (Picture in Picture) video processing functions provided in this monitor is intended for private viewing only.
Use of the above video processing functions for profit making purposes or for public viewing (clubs, hotels etc.) without prior authorization from the transmitter and/or owner of the video program(s) may be an infringement of existing copyright laws.

PRELIMINARY INSTRUCTIONS

WHERE TO PUT THE MONITOR

LIGHTING

Bright lights or direct sunlight will dull the picture. Position the monitor so that the screen faces away from windows.

AIR CIRCULATION

Leave space for air to circulate behind the monitor. Keep it away from curtains and other furnishings that could block ventilation.

HEAT DAMAGE

Damage may occur if you leave the monitor in direct sunlight or near a heater.

OPTIMUM VIEWING DISTANCE

10 to 23 feet is the range recommended for viewing comfort.

POWER SOURCE

This Projection Monitor operates on AC 120 V, standard household voltage.

NEVER CONNECT THE PROJECTION MONITOR TO OTHER THAN THE SPECIFIED VOLTAGE, OR TO DIRECT CURRENT.

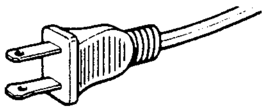
POWER OUTLET

- This monitor requires an AC 120 volt polarized outlet. The plug will fit only one way. If it will not go in, turn it around and try the other way. If you are still unable to insert the plug, call an electrician to replace the wall socket.
- A damaged cord or plug is a fire hazard. If you notice wear or damage, have it fixed by qualified service personnel.
- Plug directly into the wall socket. Do not use extension cords or other receptacles. Do not overload the outlet; it is a fire hazard.

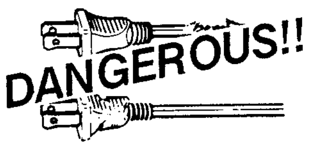
NOTE:

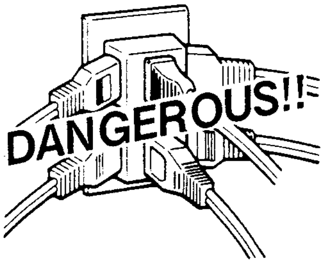
- *Never remove the back cover of the Projection Monitor as this will expose you to dangerously high voltage and other hazards. If the monitor does not operate properly, unplug it and refer to page 44.*

- POLARIZED PLUG



- DANGEROUS





POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the monitor, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed in such a way that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord regularly. If you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

FEATURES

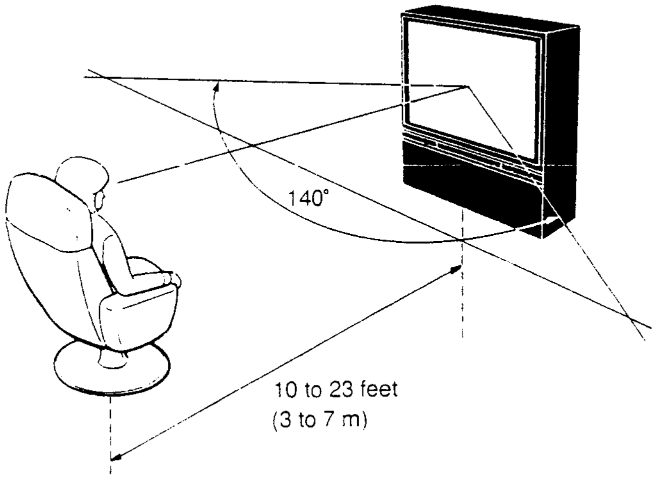
Sharp, Clear Images with 830 line /770 line (SD-P4565) Horizontal Resolution (Video input)

- A 10 MHZ video bandwidth and Dynamic Picture Control circuitry provide sharp detail and crisp outlines.
- Dynamic focusing circuit enhances resolution at picture edges.

Wide Viewing Range Screen

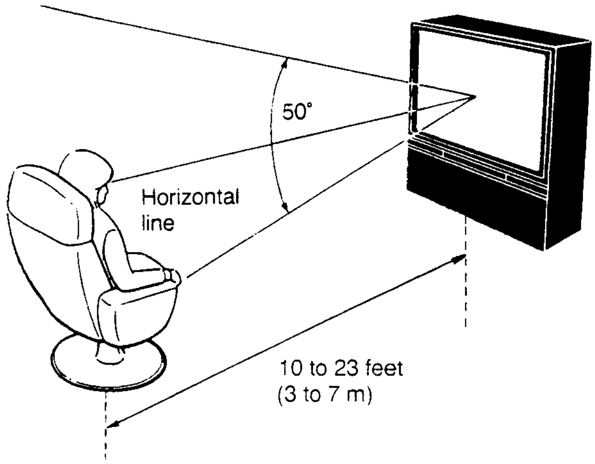
- 140° Horizontal Viewing Angle and 50° Vertical Viewing Angle.

Best Horizontal Viewing Angle



Best Vertical Viewing Angle

Watch from at least 10 feet (3 m) away from the screen. (Optimum viewing distance is 10 to 23 feet.)



You may sometimes see double images or rainbowlike effects if you view from outside of the recommended area shown here.

Amazingly Bright Picture Intensity of 440 (SD-P5567/SD-P5565) /530 (SD-P5067/SD-P5065) /650 (SD-P4565) Foot-Lambert

- New, highly efficient lens system passes more light.
- High-power picture tubes employ advanced anode stabilization circuitry and 6000 pF capacitors.
- Newly developed phosphorescent screen for the picture tubes.

Microcomputerized Dynamic Picture Optimizer (DPO)

- DPO (Dynamic Picture Optimizer) circuit detects room light and optimizes the TV picture accordingly.

Equipped with the VNR (Video Noise Reduction) system for reducing noise on the screen while watching a TV program or prerecorded video cassette tape

- This system reduces noise on the screen, allowing you to enjoy your favorite programs with improved picture quality.

AV Memory

- After adjusting the picture and sound quality, you can store your settings in “AV memory”. Two AV memory settings can be stored and recalled.

High fidelity color reproduction and brighter whiteness produced by a newly developed Linear White Circuit

- The linear white circuit adjusts the blue phosphor characteristics and aligns the Red, Green and Blue drive circuits. This allows the monitor to reproduce brighter whites and natural fresh colors.

Dolby Pro Logic Surround system to produce a dramatic sound field with the Dolby surround video sources including TV programs

- Dolby Pro Logic, 3 CH Logic mode.

Newly designed Studium and S. S. (Simulated Stereo) Sound system to reproduce a wider and more dynamic sound field with any video source including TV programs

- Dynamic studium sound effects for sports programs, and a monaural sound modified to produce stereo-like sound. Simulated stereo sound is included in this sound system.

DOLBY SURROUND MODE

• DOLBY PRO LOGIC SURROND

Choose this setting for movies and music (especially Video Discs and video tapes bearing the DD [DOLBY SURROUND] mark) playback.
DOLBY PRO LOGIC SURROUND continuously detects the size and direction of the dominant signal and cancels undesirable crosstalk, thereby providing signal emphasis. You can clearly perceive the directions and source of the music.
Real flow of sound also can be re-created naturally using this feature. It gives the feeling of being in an outstanding and expansive sound filed.

• DOLBY 3 CH LOGIC

By adding the signal for the rear speakers to the signal for the front speakers, the front three channels (front L, front R and CENTER) provide a much wider, more spacious sound field than possible during ordinary stereo playback.

DOLBY PRO LOGIC SURROND is equipped with the following 3 positions for the CENTER MODE.
When using DOLBY 3CH LOGIC, you can select NORMAL or WIDE.

When using center speaker:

• NORMAL

Low range frequencies, which have little effect on directionality and positioning, are routed to the left and right front speakers. So you can use relatively small size speakers as the center speakers.

• WIDE

If you use large size center speaker, choose this setting The full frequency range of the center speakers, from low to high, is routed to the center speaker.

When not using a center speaker: DOLBY PRO LOGIC SURROUND

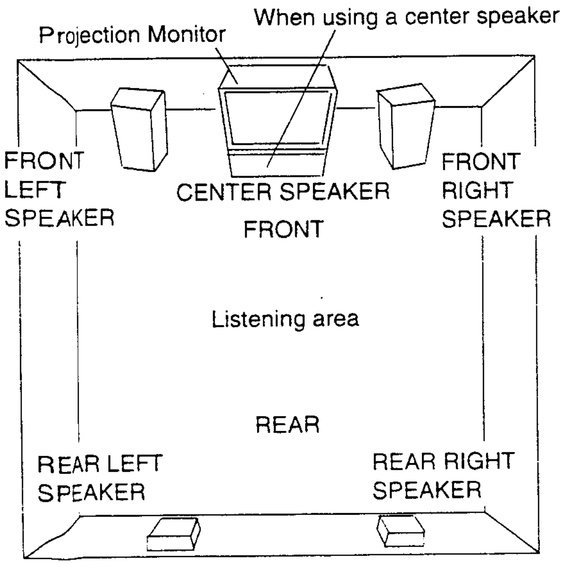
• PAHNTOM

The signal which would have been sent to the center speaker is divided equally between the left and right front speakers.

SURROUND SPEAKER INSTALLATION EXAMPLE

To get the best effect out of the surround system, place the speakers as shown below.

An example for center speaker location



NOTE:

- *To avoid interference with the picture on a nearby Projection Monitor, use magnetically shielded speaker systems for all the external speaker system. This is particularly important for the center speaker since it is usually located closest to the Projection Monitor.*
- *Position the left and right channel external speakers at equal distances from the Projection Monitor and approximately six feet (1.8 m) from each other.*
- *Position the cemter external speakers, above, below, or behind the Projection Monitor. Sound may not appear to coincide with the picture if you position it next to the Projection Monitor.*
- *Rear speaker are best positioned slightly above ear level.*

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INSTALLATION

ANTENNA CONNECTION

Connect to an outdoor antenna, cable box or centralized antenna terminal (see page 14 for details).

MOUNTING

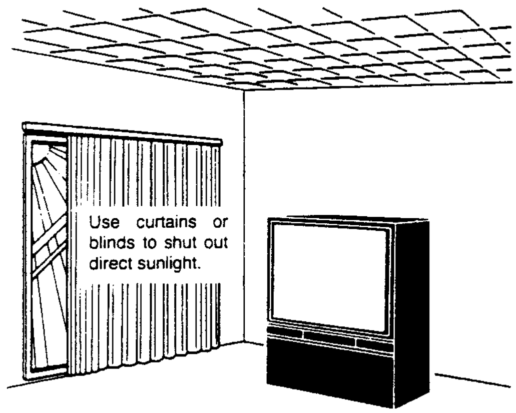
The Projection Monitor is designed to be placed on the floor or on a sturdy platform. The mounting surface should be flat and steady.

INSTALLATION PRECAUTIONS:

Place of Installation

- *When the Projection Monitor is operating, it is cooled by air-flow through ventilation holes in the rear and bottom. Therefore, avoid placing it in a location where the cooling air-flow is hindered (e.g. against a wall).*
- *Avoid places subject to extremely high temperatures or humidity, or to temperatures of 41 °F (5 °C) or lower. Also avoid dusty places.*
- *Do not set the Projection Monitor in an unstable location (such as on a shaky or tilted platform).*
- *When setting the Projection Monitor on a floor made of soft material, make sure that the floor is not damaged by the weight of the Projection Monitor.*
- *If the room temperature suddenly rises (or if the Projection Monitor is moved from a cool place to a hot place), condensation may form on the lenses, resulting in picture distortion or color fading. If this occurs, simply wait a while (with the POWER SWITCH on) and the condensation will disappear.*

Downward spot lights or fluorescent lights in an overhead "Honeycomb" prevent direct illumination of the screen.


Use curtains or blinds to shut out direct sunlight.

Cover shiny surfaces (floor and walls) with non-reflective materials, (carpet, rugs, wallpaper, etc.).

OPERATING PRECAUTIONS

Keep away from magnetic fields

The picture may be distorted if strong magnetic fields are nearby. External speakers should be set at least 2 feet (60 cm) away from the Projection Monitor. Electric fans and other motor driven appliances and toys may also be sources of magnetism.

When moving the monitor

Pull out the plug and move the monitor carefully. Be particularly careful not to bump or scratch the screen. To avoid damage to the caster wheels you may need to lift the monitor when going over irregular surfaces.

Install in a flat, steady place

Do not put the Projection Monitor on a surface that is tilted, unsteady or prone to shake or vibrate. A shaky or slanted platform is dangerous.

Adjust room illumination

Excessively bright or dim lighting may strain your eyes. Draw the curtains if necessary to shut out direct sunlight.

When not using the monitor for a long time

For safety, unplug the power cord when leaving the monitor turned off for a long period of time.

Condensation and picture blurring

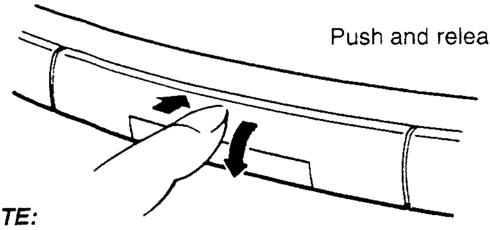
- You may see a blurred picture if the monitor is moved from a cool to a warm location or if room temperature rises very rapidly. This occurs when moisture from the air condenses on the optical parts.
- The picture will return to normal if you leave the monitor turned off for 1 of 2 hours, then turned on.
- A gradual change in temperature can prevent condensation from forming.

A word about still pictures

- Do not project a still picture on your Monitor for a long period of time.
  (For example: when using your Monitor for video games, monitoring your personal computer, or while playing back videodiscs.) This can adversely affect the monitor's CRT. If this cannot be avoided, reduce the contrast of the picture in order to minimize any damage which might occur.

FRONT PANEL FACILITIES

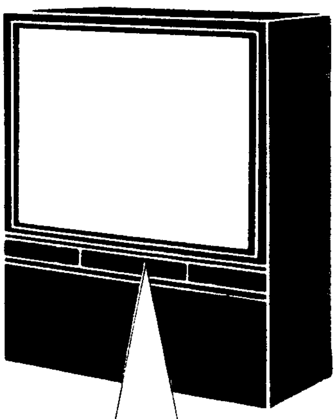
A flip-down door conceals the control panel. Push gently and release to open the door.
To close the door, lift it back up into place.



Push and release to open.

NOTE:

- *If you accidntally pull the door, it may not shut properly. Push in ewhen shutting the door to setore it to normal operation.*



Control Panel

- Use the remote control unit to operate most functions (see pages 16 to 29).

①POWER switch and indicator
Press once to turn on the power. Press again to turn the power off. The POWER indicator lights up whne the power is on.

②CHANNEL buttons
Press plus (+) or minus (–) to tune to a higher or lower channel. Only those channels in tuner preset can be tuned in by this method. For details, see page 33.

③VOLUME buttons
Press the plus (+) or minus (–) button to raise or lower the volume.

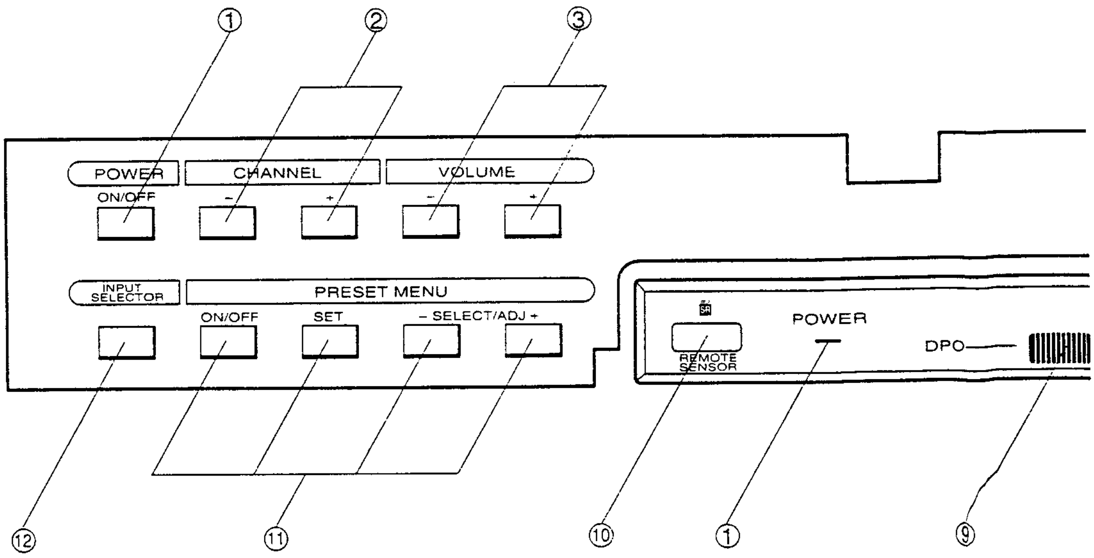
④STD/AV MEM (Standard/AV Memory) button
Press to switch between the standard (STD) picture/sound settings and the AV MEMORY 1 and AV MEMORY 2 settings which have been input with the MENU SET button.

⑤DIGITAL P IN P (Picture-in-Picture) buttons
ON/OFF: Press to turn the Picture-in-Picture function on and off.
INPUT: Press to select the input source for the sub-picture while in one sub-picture mode.

- For details on the Picture-in-Picture function, rsee page 22.

NOTES:

- *If only the S-VIDEO LD and VIDEO jacks of the LD player and/or VCR are connected to the Projection Monitor, the Picture-in-Picture function will not operate when these buttons are pressed.*
- *When the P IN P ON/OFF button is pressed and held for more than 2 seconds. The Projection Monitor will go into its demonstration mode. "P IN P DEMONSTRATION" will appear on the screen while Picture-in-Picture and DOLBY PRO LOGIC demonstration mode are engaged.*



Attention
The Projection Monitor Receiver will not function properly in the following cases:

- Lightning storms.
- High static electricity environment.
- Poor voltage regulation in the power source.

If the Projection Monitor does not operate properly, reset it as follows.
① Unplug from the power supply for approximately 1 minute.
② Plug the power cord in again to reset it.

- *The Picture-in-Picture and DOLBY PRO LOGIC demonstration mode will be cancelled if any other operation key or operation button is pressed; and the Projection Monitor will enter the selected operation mode.*

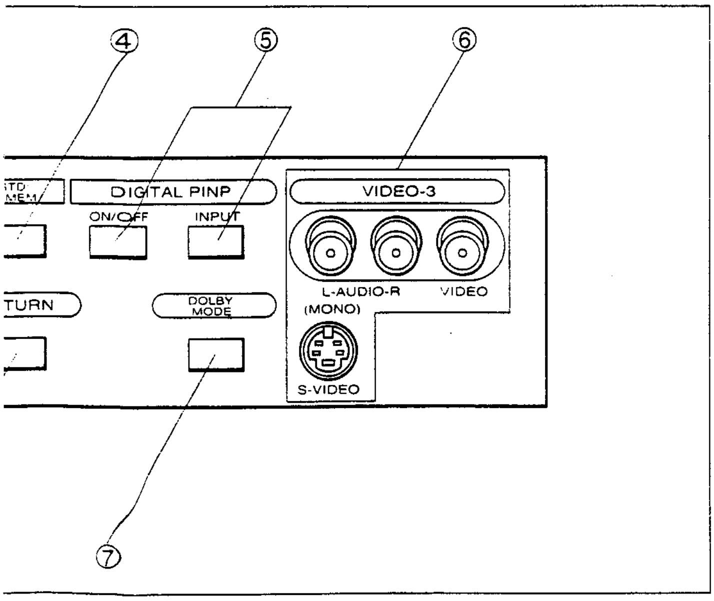
⑥INPUT jacks (VIDEO-3)
These front panel jacks are convenient for connecting portable VCR, a video camera recorder or other temporary video source to the monitor. When the audio signal of the source to be connected is monaural, connect the L (MONO) jack.
Use the S-VIDEO jack when connecting an S-VHS or ED Beta VCR, or an LD player which has an S-output jack.

⑦DOLBY MODE button
Press to select Dolby surround mode as desired according to the video source and speaker system positioning. For details, see pages 13 and 20.

⑧RETURN button
Press to set the Projection Monitor to its initial mode instantly if either sound or picture disappear from the speaker system or the screen during adjustment.

- Adjust the Projection Monitor again after pressing the RETURN button, as all settings have been cleared.

When the RETURN button is pressed, the Projection Monitor is set as follows:
PICTURE: CONT; Set to 25, other parameters: set to 0.
SOUND: Set to standard.
VOLUME: Remains at the last setting.
DOLBY PRO LOGIC/ DOLBY 3CH LOGIC/ S.STEREO/ DPO/ P-in-P/ VNR: Set to OFF.
INPUT SELECTOR: Set to TV.
TV CHANNEL: Remains at the last channel set.



⑨DPO sensor
This sensor detects ambient lighting for the DPO (Dynamic Picture Optimizer) circuit which optimizes the TV picture accordingly.

⑩REMOTE sensor
This sensor picks up infrared signals from the remote control unit.

⑪PRESET MENU buttons
These buttons are used to perform the following functions: color convergence, tuner presetting, TV-CATV selection, relabeling input label, system mode setting and AV memory storage. For details, refer to the description of each function.
ON/OFF: Press to turn the Menu (functions above) on and off. When the button is pressed on, the function names CONVERGENCE, AV MEMORY, DPO BASE, INPUT LABEL, TV-CATV MODE, TUNER PRESET and SYSTEM MODE are displayed on the screen.
SELECT/ADJ (+/–): Press to select the desired function. The selected function is displayed in red.
SET: Press to activate the selected function.
NOTE:

- *When the ON/OFF button is pressed and held for more than 2 seconds, the linear white system will be turned off and "LINEAR WHITE OFF" will appear on the screen. The linear white system will resume operation approx. 4 seconds after the ON/OFF button is released.*

NOTE:

- *Refer to page 43, if you wish to use the SYSTEM MODE function.*

⑫INPUT SELECTOR button
Press to select your program source: TV, LD player, VIDEO 1, VIDEO 2 or VIDEO 3. Each press of the button changes the selection to the next source.

NOTE:

- *On rare occasions, an electrical discharge may occur inside the CRT. It makes a short, sharp pop and either no sound is produced or the volume level changes by itself. The Picture-in-Picture function will be cancelled automatically if an electrical discharge occurs when this function is engaged. However, DOLBY SURROUND, STUDIUM/SS, DPO, VNR resume automatically when an electrical discharge occurs.*

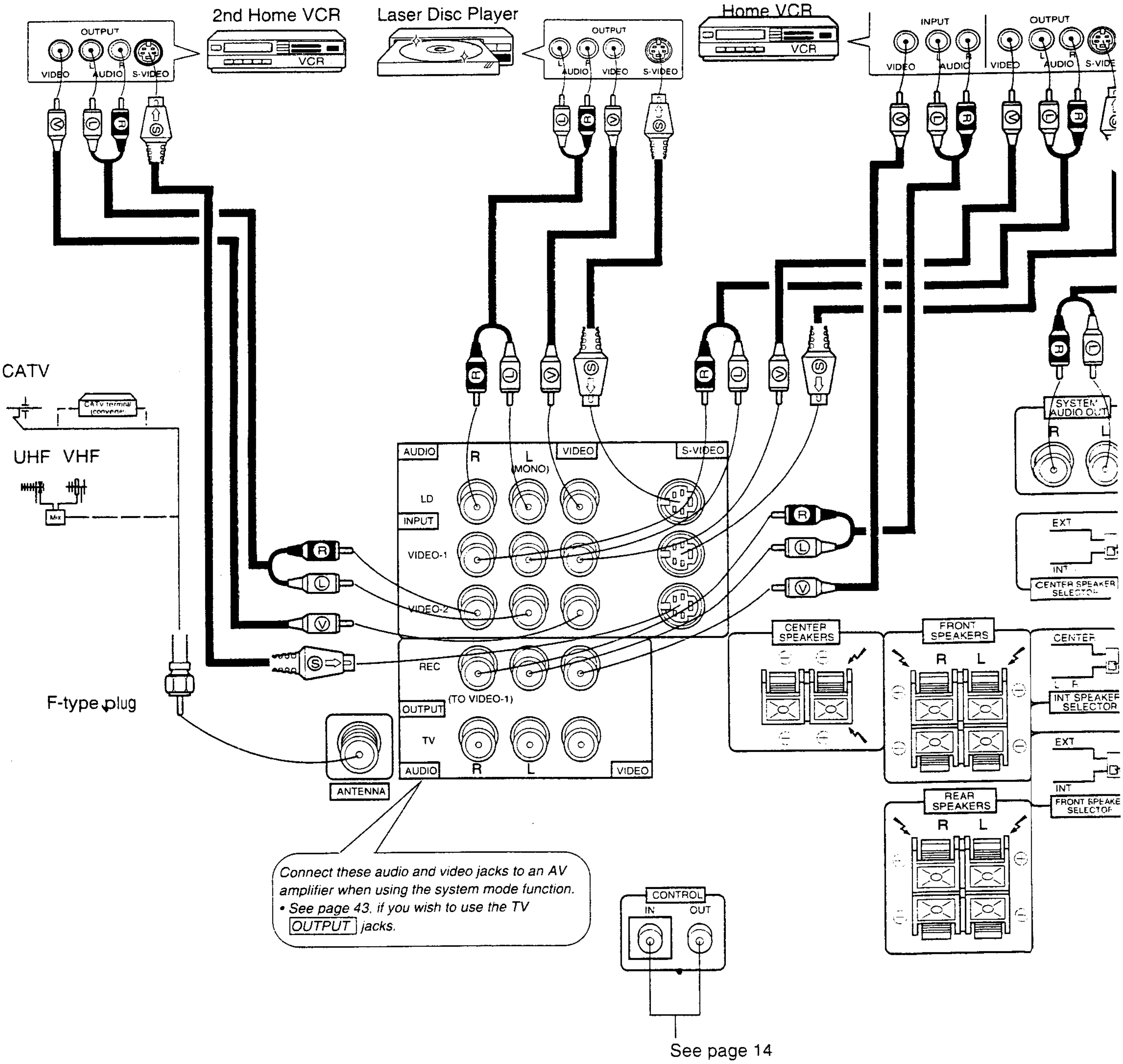
SYSTEM CONNECTION DIAGRAM

Refer to the instructions for your VCR, LD Player and other components for details concerning connections.
Turn off all components before making connections.

INPUT jacks
These are 4 sets of inputs for VCRs, LD Players and other video sources. Use RCA-type pin plug cords (the same as those used in hi-fi systems) for connections. When the audio source to be connected is monaural, connect the source to the L-(MONO) jack.

NOTE:

- *These video input jacks will be cut automatically when connecting both RCA-type pin plug cords and S-VIDEO cords at the same time.*


2nd Home VCR
Laser Disc Player
Home VCR
OUTPUT
VIDEO
AUDIO
S-VIDEO
L
R
VCR
INPUT
CATV
CATV terminal (converter)
UHF VHF
Mix
F-type plug
ANTENNA
AUDIO
R
L
(MONO)
VIDEO
S-VIDEO
LD
INPUT
VIDEO-1
VIDEO-2
REC
(TO VIDEO-1)
OUTPUT
TV
CONTROL
IN
OUT
SYSTEM AUDIO OUT
EXT
INT
CENTER SPEAKER SELECTOR
CENTER SPEAKERS
FRONT SPEAKERS
REAR SPEAKERS
CENTER
INT SPEAKER SELECTOR
FRONT SPEAKER SELECTOR

Connect these audio and video jacks to an AV amplifier when using the system mode function.

- *See page 43, if you wish to use the TV OUTPUT jacks.*

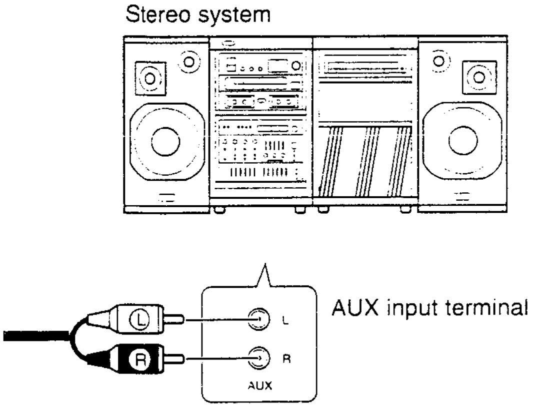
See page 14

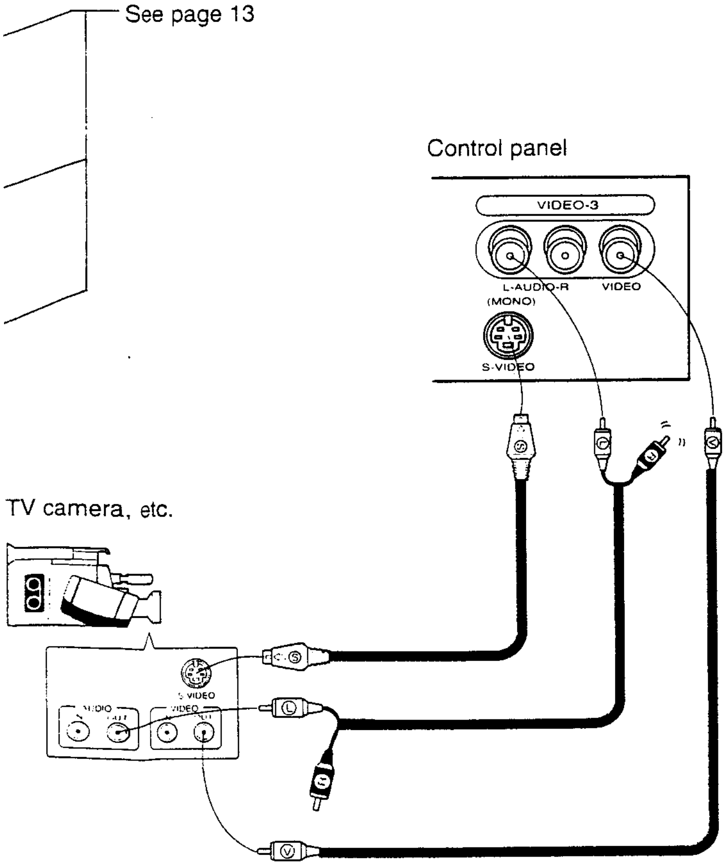
S-VIDEO INPUT jacks

Use the S-VIDEO VIDEO jacks (VIDEO-1 to 3) to input S-VHS or ED Beta VCR video signals.
Use the S-VIDEO LD jack to input signals from an LD Player which has an S-output jacks.

NOTE:

When making S-VIDEO connections for either a VCR or an LD Player, be sure to keep the standard VIDEO and AUDIO pin plug cords connected between the VCR/LD Player and the Projection Monitor. If only the S-VIDEO LD and VIDEO jacks are used connected, the Picture-in-Picture function cannot be used.





OUTPUT TO VIDEO-1 REC-jacks

These are used for connecting the monitor to a VCR for recording, or for linking it to another monitor. These jacks output the video and audio signals of the source currently selected by the INPUT SELECTOR. Connect these output jacks to your VCR's inputs. Connect the VCR's outputs to the monitor's VIDEO-1 inputs. Connect the VCR's outputs to the monitor's VIDEO-1 inputs if you have the VCR.

ATTENTION

- *If a VCR is connected to the VIDEO-2 inputs, then that VCR should not be connected to these outputs. The design of some VCRs causes an oscillation feedback loop in such situations.*

CONTROL IN/OUT jacks

This jack is used to extend remote control to other PIONEER equipment bearing the SR (System Remote) mark. Use mono miniplug cords (available at audio and video shops) to connect the monitor's CONTROL OUT jack to the CONTROL IN jack of the other component. The other component can be connected to still another in the same manner, from the CONTROL OUT jack of one to the CONTROL IN jack of the other. If a component has only a CONTROL IN jack then put that component last in the sequence. Otherwise, you may connect then in any order that is convenient. If another component has the SR mark and its own remote control sensor, then the CONTROL OUT/IN jack connection is not required. However, this connection may improve the response of remote control, since you will not need to point the remote control unit at different components (see page 14).

NOTE:

The Projection Monitor's remote sensor does not function when a plug is inserted in the IN jack.

SYSTEM AUDIO OUT jacks

These jacks output the audio signal from the video program material currently selected for viewing on the monitor. Connect these audio output jacks to the AUX input jacks of your stereo system. You can then use the remote control unit to adjust the volume.

NOTE:

- *Signals from these output jacks will be affected by AV memory, bass and treble tone adjustments using the STUDIAM/SS button, STD/AV MEM button, SOUND button, ADJUST ◄ and ► button as well as the Dolby Pro Logic SUrround function using the DOLBY MODE button.*

SPEAKER SELECTOR switches
(CENTER SPEAKER /INT SPEAKER /FRONT SPEAKER)

These switches lets you select either the built-in speakers or external speakers and speaker system operation mode between center speaker system and normal left anf right channel speakers (see pages 12 and 13).

NOTE:

- *Set the FRONT SPEAKER switch to INT when using the built-in speakers. Do not use the INT setting if using speakers connected to the FRONT SPEAKERS terminals on the rear panel. When set to INT no sound is output from the front external speakers.*

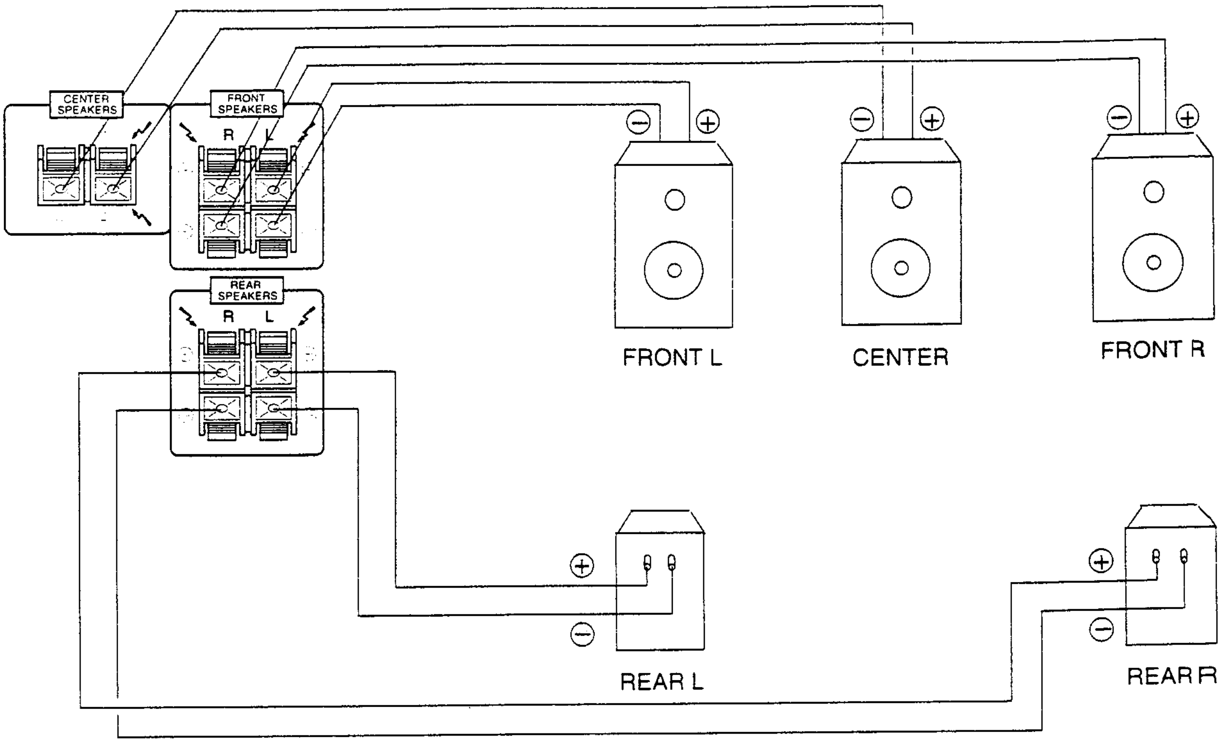
EXTERNAL SPEAKERS terminals
(FRONT: L,R /REAR: L, R /CENTER)

For connection of external speakers (purchased separately), see pages 12 and 13.

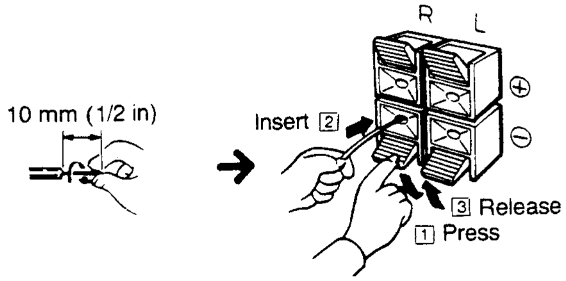
SYSTEM CONNECTION DIAGRAM

SPEAKER SYSTEM CONNECTIONS AND SELECTOR SWITCH SETTING FOR DOLBY PRO LOGIC SURROUND SYSTEM REPRODUCTION

CONNECTING EXTERNAL SPEAKER WIRES



CONNECTING EXTERNAL SPEAKER WIRES



Strip each wire so that about half an inch is exposed. Twist the core.

Turn off the power of the monitor and connected equipment.
Press the lever, insert the wire, and release the lever to lock the wire into place. Pull gently on the wire to check that it is securely connected.

Do this for each wire. Be careful to connect the right speaker's plus and minus terminal wires to the "R", "+" and "–" terminals. Likewise, connect the left speaker's plus and minus terminal wires to the "L", "+" and "–" terminals.

Precautions

- Make sure that exposed wires do not protrude and touch each other.
- If you do not hear a normal stereo image when listening to a stereo program, it may be because the "+" and "–" connections are reversed for one of the external speakers.
- Make sure that the right speaker is connected to the "R" terminals and the left speaker to the "L" terminals. Make sure that each speaker's two wires are properly connected to the appropriate "+" and "–" terminals.

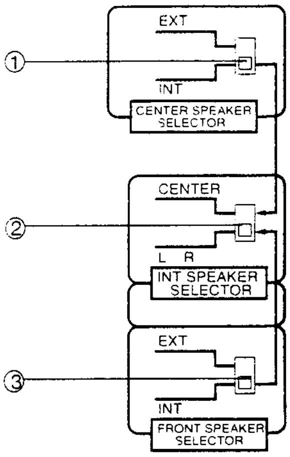
NOTES:

- *Use speakers with an impedance rating ranging from 8 ohms to 16 ohms.*
- *Ordinary speakers are not magnetically shielded and may disturb the picture if placed too close to the Projection monitor. If you notice a problem, move the speakers about 2 feet (60 cm) away from the Projection monitor.*
- *Make sure to connect both left and right rear speakers to the Projection Monitor. If no sound is produced, one of the speaker is not connected.*

HOW TO USE EXTERNAL SPEAKER SYSTEMS AND HOW TO SET THE SPEAKER SELECTOR SWITCHES

When using the Projection Monitor built-in speaker systems and external speaker systems for the surround reproduction.

Set the SPEAKER SELECTOR SWITCHES as follows:


EXT
①
INT
CENTER SPEAKER SELECTOR
CENTER
②
L R
INT SPEAKER SELECTOR
EXT
③
INT
FRONT SPEAKER SELECTOR

Speaker system positioning	Speaker system use	SPEAKER SELECTOR switch setting		
		① CENTER SPEAKER SELECTOR	② INT SPEAKER SELECTOR	③ FRONT SPEAKER SELECTOR
Fig. -1	Use the built-in speaker systems for the front left and right channel speaker and the external speaker systems connected to the CENTER SPEAKERS terminals. • If all the speaker systems are connected to the Projection Monitor except the external center speaker, all the following SPEAKER SELECTOR switches must be set as indicated.	Set to EXT.	Set to LR.	Set to INT.
Fig. -2	Use the built-in speaker systems for the center channel speaker and the external speaker systems connected to the Left and Right FRONT SPEAKERS terminals.	Set to INT.	Set to CENTER.	Set to EXT.
Fig. -3	All the external speaker systems are connected to the CENTER, FRONT and REAR SPEAKER terminals of the Projection Monitor. And not use all the built-in speaker systems of the Projection Monitor. • If all the speaker systems are connected to the Projection Monitor except the external center speaker, all the following SPEAKER SELECTOR switches must be set as indicated.	Set to EXT.	– (Set to LR or CENTER.)	Set to EXT.

Fig. –1

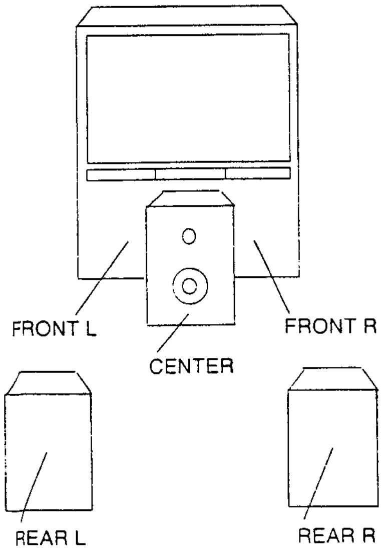

FRONT L
FRONT R
CENTER
REAR L
REAR R

Fig. – 2

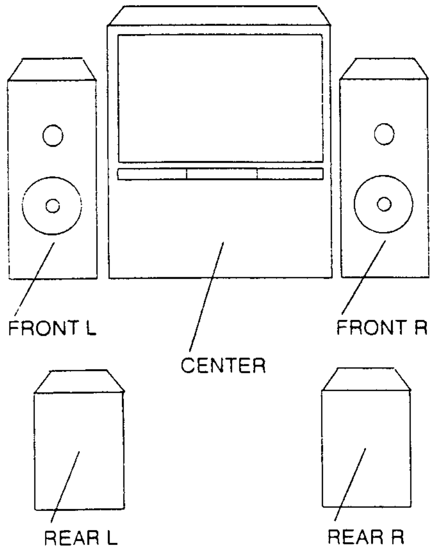
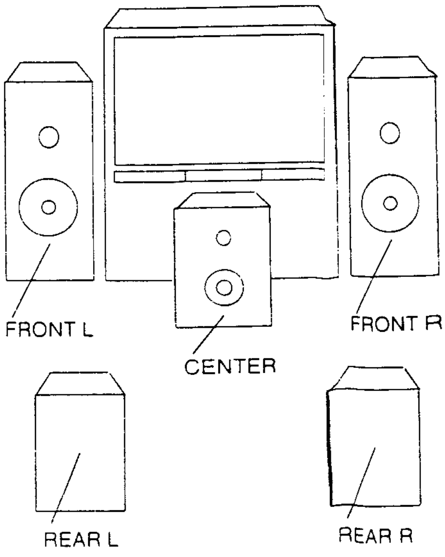
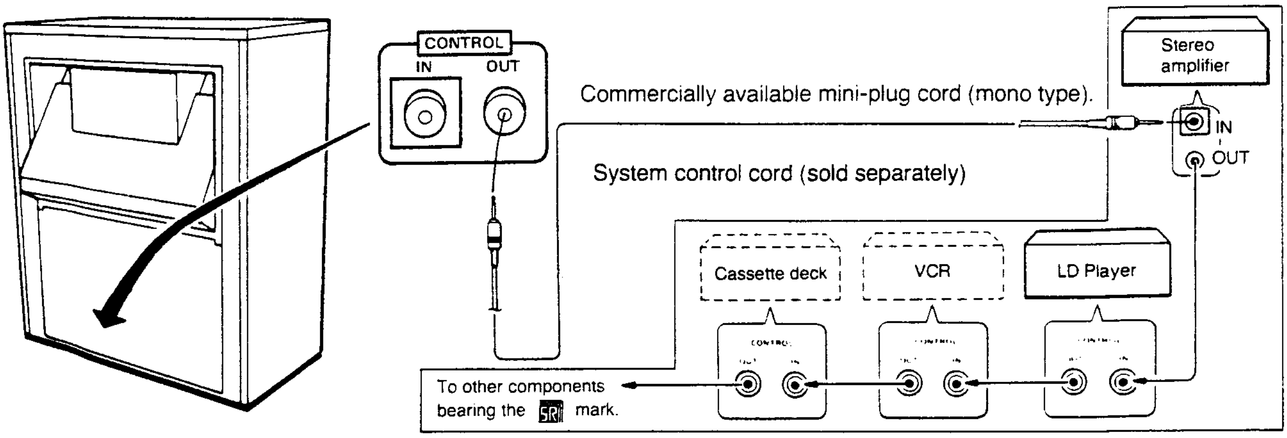

FRONT L
FRONT R
CENTER
REAR L
REAR R

Fig. – 3


FRONT L
FRONT R
CENTER
REAR L
REAR R

SYSTEM REMOTE CONTROL CONNECTIONS

Many PIONEER SR audio and video components can be connected to provide remote control for an entire audio/video system. Use mini-plug cords (monaural) which may be purchased in most audio and video stores. Connect from the CONTROL OUT jack of one component to the IN jack of the next component.


CONTROL
IN
OUT
Commercially available mini-plug cord (mono type).
System control cord (sold separately)
Stereo amplifier
IN
OUT
Cassette deck
VCR
LD Player
To other components bearing the SR mark.

ANTENNA CONNECTIONS

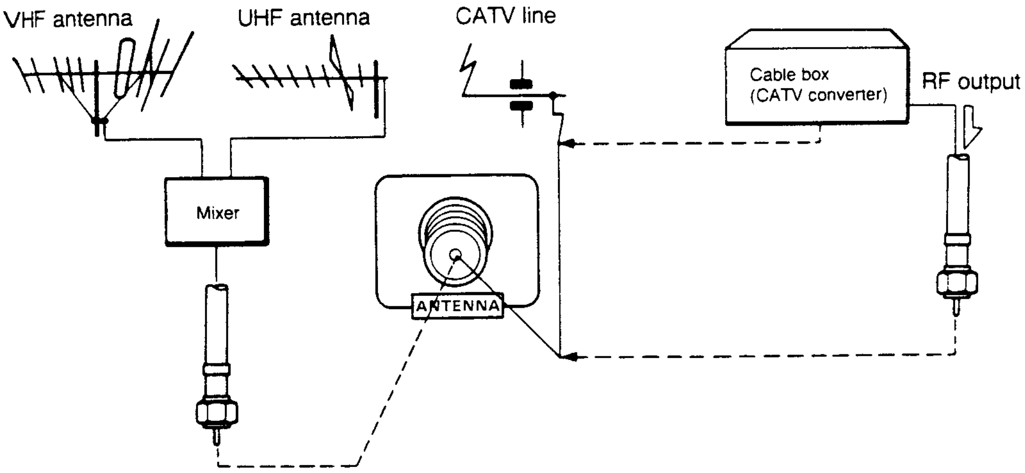
A good color picture depends on a good TV signal. So does good multi-channel (stereo and SAP) sound. To ensure the highest signal quality, choose an antenna that suits your reception area and have it properly installed. Ask your dealer for advice.

If you subscribe to cable or have a central antenna for your building, then you will not need an external antenna. However, proper connections from the TV signal source to your monitor are essential. Please refer to the instructions below.

USING THE ANTENNA CABLE CONNECTOR

The cable connector plugs into the monitor's antenna terminal. This monitor is designed to be connected to a 75 ohm coaxial cable using an F-type plug.

Connect the cable box RF output cable or the antenna cable connector into the ANTENNA terminal.

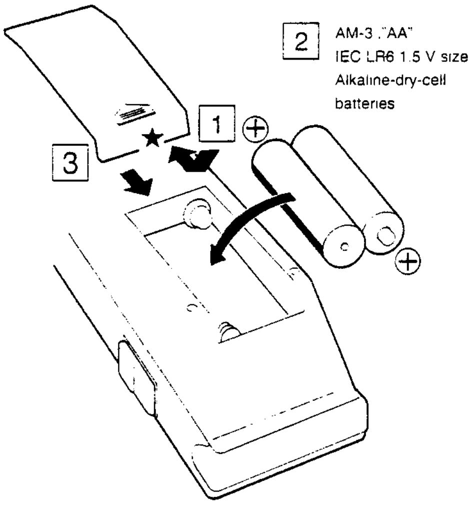

VHF antenna
UHF antenna
CATV line
Cable box (CATV converter)
RF output
Mixer
ANTENNA

INSERTING BATTERIES IN THE REMOTE CONTROL UNIT

You will find the remote control unit packed inside the projection monitor box. Open the remote control unit and insert the batteries. Follow the procedure below:

1. Open the battery compartment on the rear of the remote control unit. Press down at the ★ mark with your thumb as shown in the illustration and pull the compartment cover open.
2. Note the polarity (+ and –) markings in the case. Insert the supplied batteries so that they match the markings.
3. Close the lid by sliding it back in until it clicks into place and press the RESET button located on inside of the top panel with the tip of a ballpoint pen. The remote control unit is now ready to use.

INSERTING BATTERIES



Battery Replacement

- If the TRANSMIT/LEARN indicator does not light normally, the batteries are low and should be replaced as soon as possible. Be sure to press the RESET button after the batteries are replaced and the battery compartment cover is closed. (Even when the RESET button is pressed, the programmed signals will not be erased.)
- Replace all batteries with new ones at the same time, but press the RESET button.

NOTE:

- *Insert the batteries whithin approx. 15 minutes. The programmed commands will be erased from the memory of the remote control unit for more than approx. 15 minutes if the batteries are not inserted.*

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

A.
Always insert batteries into the battery compartment correctly matching the positive + and negative – polarities, as indicated inside the compartment.

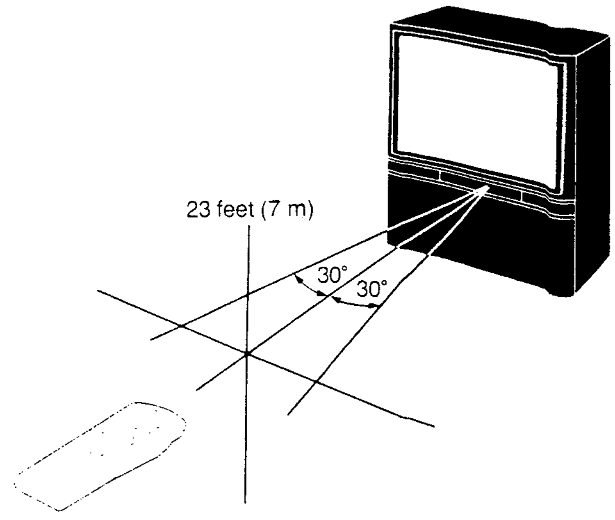
B.
Never mix new and used batteries.

C.
Batteries of the same size may have different voltages, depending on their type. Do not mix different type of batteries.

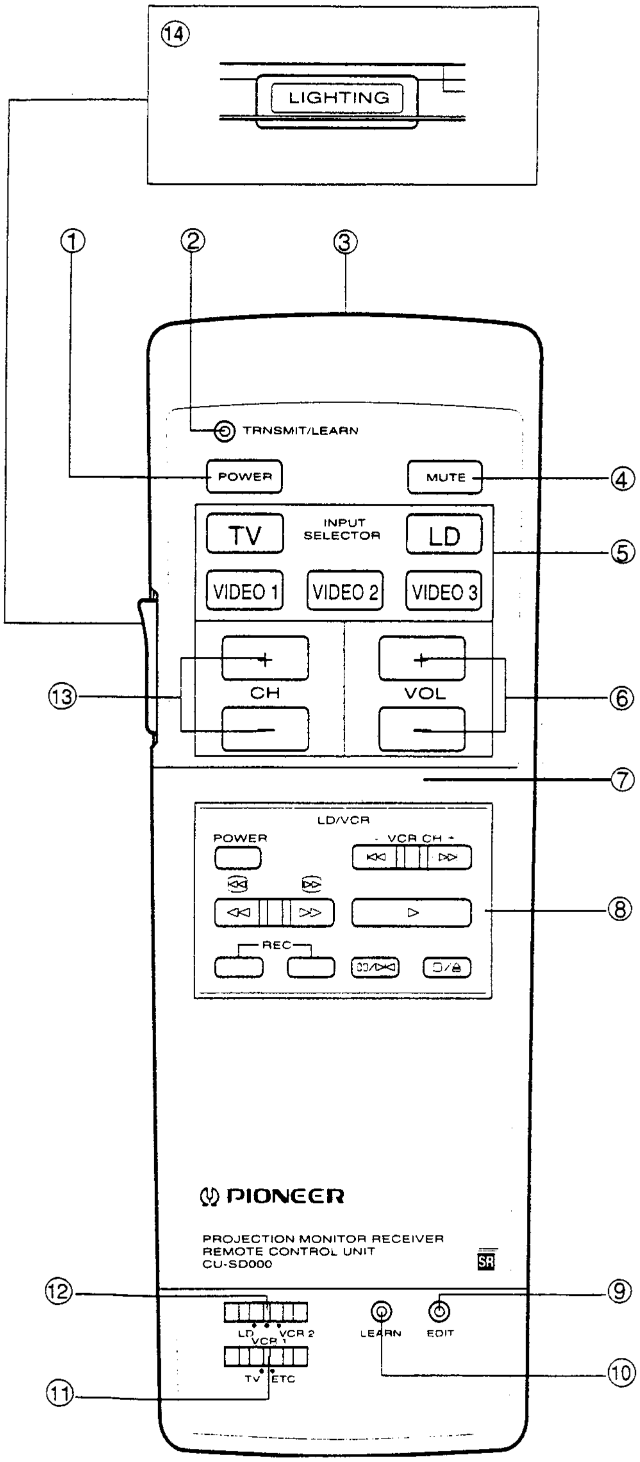
REMOTE CONTROL OPERATION RANGE

- Point the remote control unit toward the front of the Projection Monitor when you press any of the control keys.
- The remote control unit should be effective at distances of up to about 23 feet (7 m) from the Projection Monitor and at angles of up to about 30 degrees from a line perpendicular to the front panel.
- Furniture and other obstacles may block the infrared light beam so that it cannot reach the sensor on the Projection Monitor's front panel.
- If there is no response even when the remote control is used directly in front at the monitor, the dry cell batteries may need replacement.
- Performance of the remote control unit is adversely affected by strong fluorescent light. Keep such lights away from the sensor window in particular.

NOTE:
These figures are general and do not necessarily apply to programmed commands.



REMOTE CONTROL UNIT FACILITIES


⑭
LIGHTING
①
②
③
TRNSMIT/LEARN
POWER
MUTE
④
TV
INPUT SELECTOR
LD
⑤
VIDEO 1
VIDEO 2
VIDEO 3
⑬
CH
VOL
⑥
⑦
LD/VCR
POWER
VCR CH
REC
⑧
PIONEER
PROJECTION MONITOR RECEIVER
REMOTE CONTROL UNIT
CU-SD000
⑫
⑨
LD
VCR 1
VCR 2
LEARN
EDIT
TV
ETC
⑩
⑪

① POWER button

Turns the power of the monitor on and off.

② TRANSMIT/LEARN Indicator

Flashes when commands are being sent in one of remote control button is pressed.

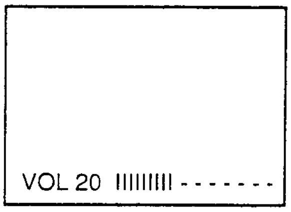
③Transmitting and Remote Control Code Receiver Window

Transmits remote control signals using infrared rays. When memorizing a remote control code, the window will function as an infrared receiver.

④ MUTE button

Press to temporarily turn off the sound. Press again to return to the previous volume level. This is useful, for example, when answering telephone.

The volume display will turn red while the mute function is engaged. If the mute function is left on for over approx. 10 minutes, the function will be cancelled automatically, and the volume level will be reset to 0. The volume display will disappear from the screen when the mute function is cancelled.


VOL 20 IIIIIIII - - - - - - -

⑤ INPUT SELECTOR buttons (TV/LD/VIDEO 1/VIDEO 2/ VIDEO 3)

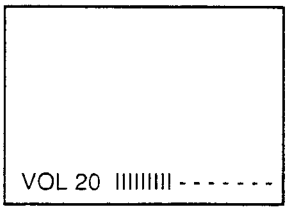
Press the button to select the source you wish to watch. The screen will display your selection.

⑥ VOL (Volume) +, – buttons

Press the + button to increase the volume, and the – button to decrease it. Volume adjustment will appear on the screen as numbers and a bargraph. '63' indicates the maximum volume level.

The display will disappear from the screen after 4 seconds.

* Volume display will change color automatically according to the selected input mode.


VOL 20 IIIIIIII - - - - - - -

⑦ Top Panel

Operation buttons contained inside of the top panel for more atractive feature operations.

- After all operations are completed, make sure to close the top panel is securely closed.

⑧ LD/VCR Control buttons

If your LD Player or VCR (Video Cassette Recorder) is a PIONEER model bearing the SR mark, you can control the component using these buttons. For details, see page 29.

- When using these control buttons, the TRANSMIT MODE switch is selcted to LD, VCR 1 or VCR 2.

⑨ EDIT button

Press to set the preset code setting mode by setting TRANSMIT mode switch to LD, VCR 1 or VCR 2 (See page 26).

⑩ LEARN button

This setting activates the capability of the unit to "learn" and store command codes from other remote control units.

⑪ TV/ETC switch

Set to the position that corresponds to the component you wish to use between Projection Monitor and other LD player or video cassette recorder using commands programmed in the remote control unit.

TV: To send remote control code commands to Pioneer SR marked models.
ETC: To send command to a programmed command.

⑫ TRANSMIT MODE switch

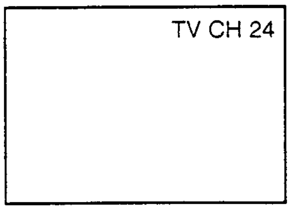
Set to the position that corresponds to the component you wish to operate.

LD: To control the LD Player.
VCR1: To send commands to VCR 1.
VCR2: No commands are presetted.

- If you wish to use LD/VCR control buttons for VCR2 remote control, store command codes from other remote control units to the LD/VCR control buttons. For details, see pages 24 and 28.

⑬ CH (Channel) +, – buttons

Press the + or – button to scan up or down among the channels in tuner preset.



⑭ LIGHTING button

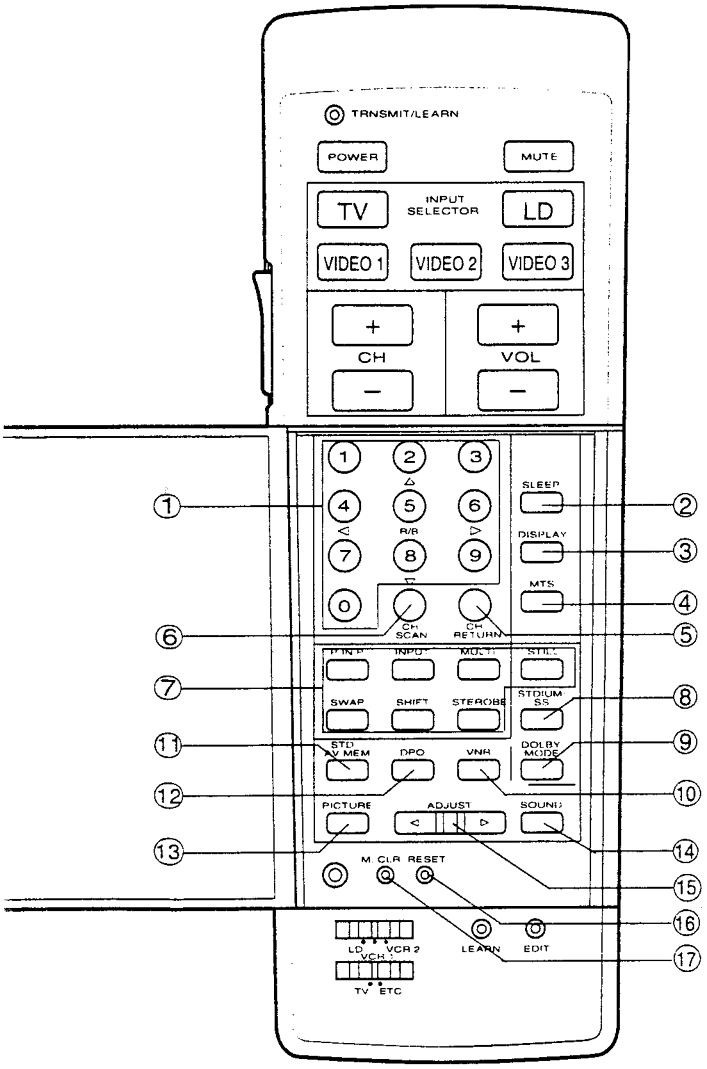
Press the INPUT SELECTOR (TV/ LD/ VIDEO1/ VIDEO 2/ VIDEO 3), VOL (+/–) and CH (+/–) button lights on.
The lights go off automatically several seconds after the button is pressed.

- If the light becomes dimmer or operating distance of the remote control becomes shorter, the dry cell batteries may need to be replaced.
- If you press the LIGHTING button repeatedly, inserted batteries life will become shorter.

'92 PROJECTION MONITOR RECEIVER ELECTRICAL INFORMATION

REMOTE CONTROL UNIT FACILITIES

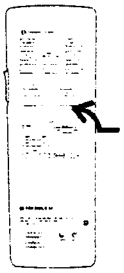
Inside of the top panel


TRNSMIT/LEARN
POWER
MUTE
TV
INPUT SELECTOR
LD
VIDEO 1
VIDEO 2
VIDEO 3
+
CH
−
+
VOL
−
1
2
3
△
4
5
6
◁
R/B
▷
7
8
9
▽
0
CH SCAN
CH RETURN
SLEEP
DISPLAY
MTS
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STEROBE
STDIUM SS
STD AV MEM
DPO
VNR
DOLBY MODE
PICTURE
ADJUST
◁
▷
SOUND
M. CLR
RESET
LEARN
EDIT
LD
VCR 1
VCR 2
TV
ETC
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰

Caution:

Open the top panel while pressing the top right hand corner of the top panel.

If the top panel is removed, attach it into place.



① Direct Channel Selection/Color Convergence buttons

Press the button (or buttons) that correspond to the channel that you wish to watch, to switch directly to that channel from any other channel.

The ②, ④, ⑤, ⑥ and ⑧ buttons are also used for color convergence operation. For details, see page 30.

② SLEEP button

Press to set the sleep timer.

The switching sequence is 90, 60, 30 (in minutes) and OFF (cancel). The screen will confirm your setting and the projection monitor will shut down when that amount of time has elapsed.

While the timer is working, the auto-off facility will not function.

The POWER OFF display will appear on the screen approximately 1 minute before turning off the power. The POWER OFF display will flash alternately red and black until the power is turned off.

→ **SLEEP OFF** → SLEEP 90 → SLEEP 60 →
SLEEP 30 ←

Each time the SLEEP button is pressed, the sleep time decreases in intervals of 30 minutes OFF → 90 → 60 → 30. When the SLEEP button is held down, the sleep time decreases in one minute intervals. For example, to set sleep time to 40 minutes: Press the SLEEP button twice ('90' is displayed).

Press the SLEEP button again and hold it ('60' is displayed briefly, then the display decreases in 1 minute intervals; 59, 58, 57, ... etc.).

Release the SLEEP button when the display reads '40'.

③ DISPLAY button

Press once to display the current channel and/or other information on the screen.

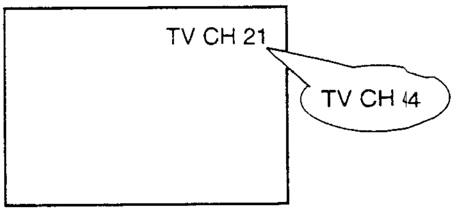
④ MTS (Multi-channel TV Sound) button

Press to select the reception mode for multi-channel TV.

→ MAIN → SAP → MAIN/SAP → MONO →

⑤ CH RETURN (Channel return) button

Press to switch between the current channel and the channel you were watching immediately before. This is useful, for example, if you wish to switch back and forth between two sporting events.


TV CH 21
TV CH 44

⑥CH SCAN (Channel scan) button
Press to display 4 (or 9) memorized TV stations on the split screen at the same time. After pressing the CH SCAN button, use the MULTI button to select 4 station display mode or 9 station display mode.

Channel Scan Features
When 4 screen or 9 screen mode is selected, use this feature to select one of the television stations currently displayed for full-screen viewing.

Press the direct channel selection buttons that correspond to the channel that you wish to watch.

NOTE:
Non broadcasting station channel or no transmission service. In the case. transmission from the broadcasting station has stopped or you have selected a channel without broadcasting station, either a noise screen or the transmission of the last station received will appear on the screen, when channel scan feature are engaged.

⑦ Picture-in-Picture Control buttons
Any program source connected to the Projection Monitor can be displayed on the screen simultaneously with any other source. Also, the multiscreen mode (4 sub screen or 9 sub screen) can be selected.

P IN P:	Press to turn the Picture-in-Picture function on and off.
INPUT:	Press to select the input source for the sub-picture while in one sub-picture mode.
MULTI:	Press to select the number of sub-pictures which appear on the screen (1,4 or 9).
SWAP:	When only one sub-picture is displayed, press to exchange the position of the main picture and sub-picture.
SHIFT:	Press to move the sub-picture to a different place on the screen.
STROBE:	Press to select the strobe feature. Be sure to select the multiscreen mode (4 sub-screen or 9 sub-screen) using the MULTI button.
STILL:	Press to select still screen or normal mode.

⑧ STADIUM/S.S. button
Press once to display the current channel and/or other information on the screen approx. 4 seconds.
The selected mode will be set to OFF when DOLBY PRO LOGIC or DOLBY 3CH LOGIC is selected and the DOLBY MODE button is pressed.

→ OFF → STADIUM → S.STEREO ⏎

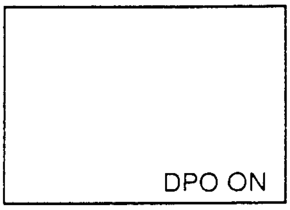
⑨ DOLBY MODE button
Press once to display the current channel and/or other information on the screen approx. 4 seconds.
The selected mode will be set to OFF when STUDIUM or S.STEREO is selected and the STUDIUM/S.S. button is pressed.

→ OFF → DOLBY PRO LOGIC →
DOLBY 3 CH LOGIC ←

⑩ VNR (Video Noise Reduction) button
You can turn VNR on or off as desired. When VNR is on, the noise on the screen is reduced. For details, see page 21.

⑪ STD/AV MEM (Standard/AV Memory) button
Press to switch between the standard (STD) picture/sound quality settings and your AV MEMORY 1 and AV MEMORY 2 setting.
This button only recalls settings stored in AV MEMORY. To put the current picture/sound settings into AV MEMORY, use the control panel's PRESET MENU buttons. For details, see pages 36 and 37.

⑫ DPO (Dynamic Picture Optimizer) button
You can turn DPO on or off as desired. When DPO is on, it automatically adjusts the picture to compensate for room illumination. For details, see page 38.



⑬PICTURE button
Press to select the picture parameter to be adjusted.

⑭ SOUND button
Press to select the sound parameter to be adjusted.

→ BASS → TREBLE → BALANCE ⏎

- Dolby surround adjustment menu will appear on the screen when DOLBY PRO LOGIC or 3-CH LOGIC surround is selected by pressing the SOUND button. If you want to adjust a sound parameter, set Dolby surround mode OFF before adjustment.

⑮ ADJUST button
Press the ► button to increase the value of the item currently selected using the PICTURE button or SOUND button, and the ◄ button to decrease it.

⑯RESET button
Press to reset the microcomputer in the remote control unit to its initial mode in the following cases:

- When replacing the batteries.
- If the remote control unit will not function properly when the operation key is pressed, etc.

NOTE:
On rare occasions, an electrical discharge may occur inside the unit, causing some command malfunction. If this happens pressing RESET should correct the problem. The possibility exists, however, that instead of correcting the problem, pressing RESET may erase the programmed memory.

⑰M. CLR button
Erases all commands programmed through the LEARN function; press lightly with the tip of a ballpoint pen or other fine-tipped instrument during learn mode to activate this function. For details, see page 25.

Caution:
Do not press any operation button on the Projection Monitor or on the remote control unit while recording is in progress. Signals from the REC jacks may be interrupted shortly, when an operation button is pressed.

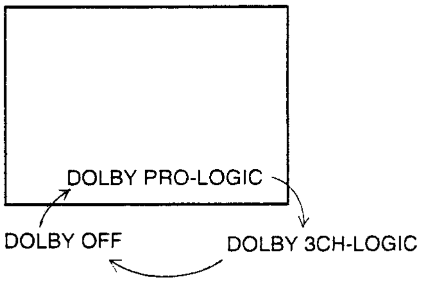
REMOTE CONTROL UNIT FACILITIES

DOLBY PRO LOGIC SURROUND AND DOLBY 3CH LOGIC

Connect external speaker systems to the Projection Monitor SPEAKERS terminals for Dolby surround reproduction and set the SPEAKER SELECTOR switches according to connected speaker systems. For more details, see page 13.

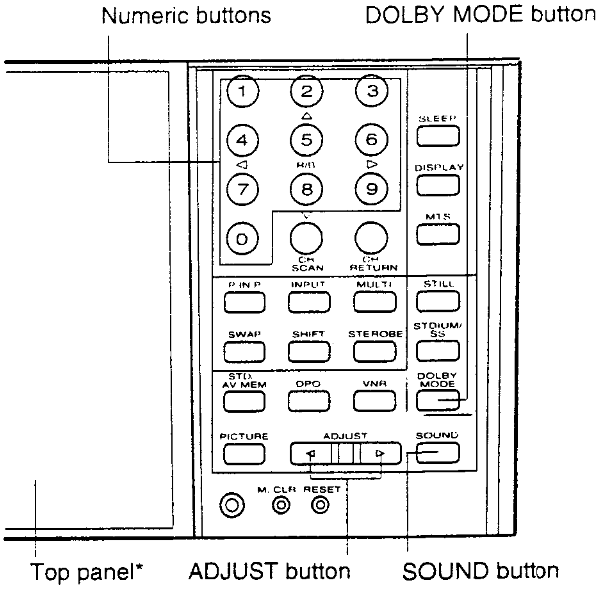
- If the SPEAKER SELECTOR switches are improperly set, no sound will be heard from the connected external speaker systems.

Press the DOLBY MODE button repeatedly to select the suitable mode of Dolby surround system for the best reproduction of the video source.


DOLBY PRO-LOGIC
DOLBY OFF
DOLBY 3CH-LOGIC

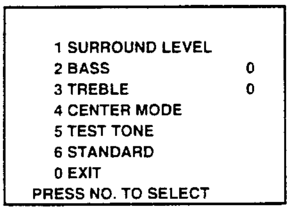
DOLBY SURROUND ADJUSTMENT

When the SOUND button is pressed, the following Dolby surround adjustment menu will appear on the screen during Dolby Pro Logic or Dolby 3CH Logic is selected.
You can adjust each item to select from the menu by pressing numeric buttons for your room and speaker system positioned condition accordingly.
Select adjustment item from the menu by pressing 1 to 6 or 0 numeric button on the remote control unit.
Then, press the ◄ or ► ADJUST button to adjust the selected item.
After all press 0 (zero) numeric button to exit the adjustment.


Numeric buttons
DOLBY MODE button
1
2
3
4
5
6
7
8
9
0
SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STEROBE
STADIUM/SS
STD. AV MEM
OPO
VNR
DOLBY MODE
PICTURE
ADJUST
SOUND
M. CLR
RESET
Top panel*
ADJUST button
SOUND button

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

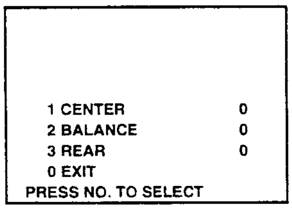
NOTE:
If you wish to exit from the mode, press the numeric 0 (zero) button repeatedly still remaining the adjustment menu on the screen, otherwise the mode cannot be exit.



```
1 SURROUND LEVEL
2 BASS              0
3 TREBLE            0
4 CENTER MODE
5 TEST TONE
6 STANDARD
0 EXIT
PRESS NO. TO SELECT
```

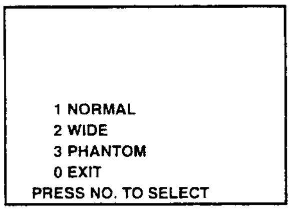
• Adjustment menu when Dolby Pro Logic is selected

Selecting SURROUND LEVEL adjustment from the menu by pressing button 1.



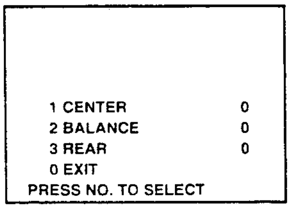
```
1 CENTER            0
2 BALANCE           0
3 REAR              0
0 EXIT
PRESS NO. TO SELECT
```

Selecting CENTER MODE adjustment from the menu by pressing button 4.



```
1 NORMAL
2 WIDE
3 PHANTOM
0 EXIT
PRESS NO. TO SELECT
```

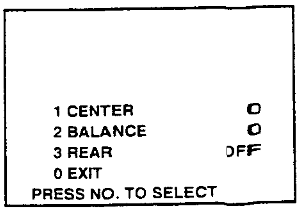
Selecting TEST TONE adjustment from the menu by pressing button 5.



```
1 CENTER            0
2 BALANCE           0
3 REAR              0
0 EXIT
PRESS NO. TO SELECT
```

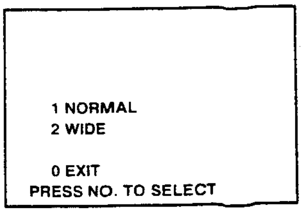
• Adjustment menu when Dolby 3CH Logic is selected

Selecting SURROUND LEVEL adjustment from the menu by pressing button 1.



```
1 CENTER            0
2 BALANCE           0
3 REAR            OFF
0 EXIT
PRESS NO. TO SELECT
```

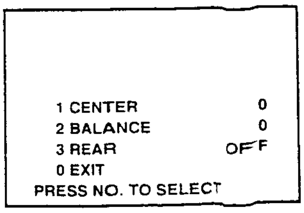
Selecting CENTER MODE adjustment from the menu by pressing button 4.



```
1 NORMAL
2 WIDE

0 EXIT
PRESS NO. TO SELECT
```

Selecting TESET TONE adjustment from the menu by pressing button 5.



```
1 CENTER            0
2 BALANCE           0
3 REAR            OFF
0 EXIT
PRESS NO. TO SELECT
```

REMOTE CONTROL UNIT FACILITIES

Stadium and Simulated Stereo effects

This monitor is equipped with the newly designed Stadium and Simulated Stereo sound effect system to reproduce a wider and more dynamic sound field for any video source including TV program. A monaural sound track can also be modified to produce stereo-like sound. Simulated stereo sound is included in this sound system.

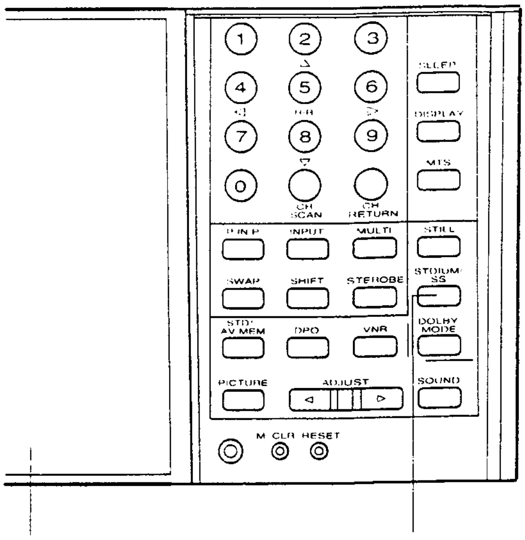
Press the STADIUM/S.S. button repeatedly to select the mode as follows:

STADIUM: Set to this mode while watching movies or sports programs.

S. STEREO (Simulated Stereo): Set to this mode while watching monaural sound programs.

NOTES:

- *The selected mode will appear on the screen for 4 seconds.*
- *Only the signals from the SYSTEM AUDIO OUT jacks will be altered when the either STADIUM or S.STEREO is selected.*
  The original output signal is sent through the other OUTPUT REC jacks.


1
2
3
4
5
6
7
8
9
0
SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STEROBE
STDIUM/ SS
STD/ AV MEM
DPO
VNR
DOLBY MODE
PICTURE
ADJUST
SOUND
M
CLR
RESET

Top panel*

STADIUM/S.S. button

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

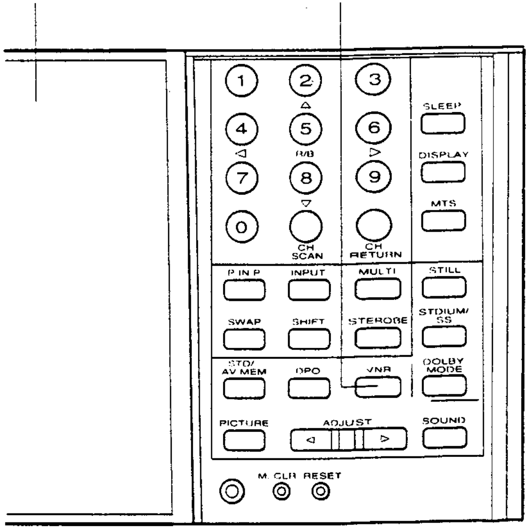
VNR (Video Noise Reduction) system operation

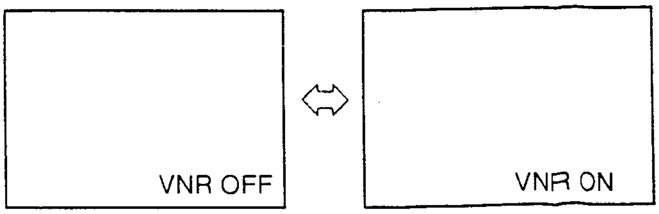
To improve picture quality with VNR while watching a TV program or prerecorded video cassette tape playback

VNR system will reduce the noise contained in the video signal and improve the picture quality of TV programs or video tape playback pictures.
Press the button once to display the VNR mode (VNR ON or VNR OFF) on the screen, then press the button once or twice to select either VNR ON or VNR OFF.

Top panel*

VNR button


1
2
3
4
5
6
7
8
9
0
SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STEROBE
STDIUM/ SS
STD/ AV MEM
DPO
VNR
DOLBY MODE
PICTURE
ADJUST
SOUND
M
CLR
RESET

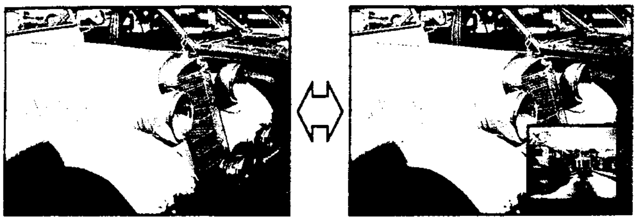

VNR OFF
VNR ON

REMOTE CONTROL UNIT FACILITIES

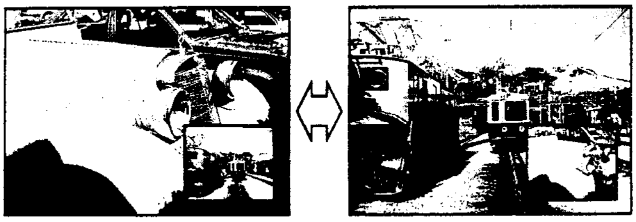
Picture-in-Picture functions

Any one of the three sources connected to the Projection Monitor can be displayed simultaneously on a small area of the screen, while one of the other sources is being watched on the main screen.

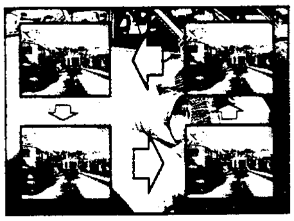
To turn the Picture-in-Picture function on and off
Press the P IN P button repeatedly to turn the sub-picture on and off.



To replace the main screen picture with the sub-picture
Press the SWAP button. Each time this button is pressed, the main screen and the sub-picture will switch positions.

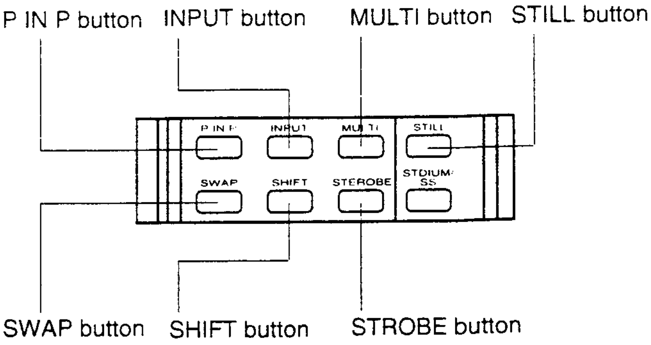


To change the position of the sub-picture
Press the SHIFT button repeatedly. Each time this button is pressed, the sub-picture will move (counterclockwise) to a different corner of the main screen.



To select the input source of the sub-picture while watching the main screen
Press the TV, LD, VIDEO 1, VIDEO 2 or VIDEO 3 INPUT SELECTOR button. When the INPUT button on the remote control unit is pressed, the selected video source for the sub-picture will be displayed (ie, video disc playback, TV program or video cassette tape playback).

Sub-picture input display
If sub-picture input source is switched by INPUT button while in one sub-picture mode. The source will be displayed above (or below) the sub-picture. Press the DISPLAY button to display the input source of the main picture in the upper right hand corner of the screen. Sub-picture input source will appear in the lower left corner at the screen.



* Before operation, open the top panel. After all operations are compled, make sure that the top panel is securely closed.

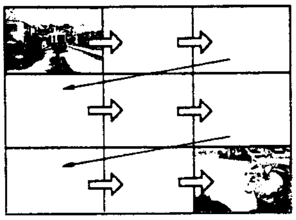
To watch a still picture on the main screen
Press the STILL button to freeze the picture. The sound track will continue to play back normally, but the picture will freeze.

To cancel still or picture-in-picture function
Press the STILL button again. The screen will be reset to normal mode. Alternatively, press the P IN P button to cancel the picture-in-picture function.

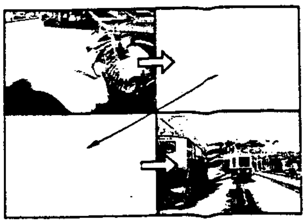
Picture-in-Picture function using the Multi-screen feature

The multi-screen feature can select 4 sub-picture mode or 9 sub-picture mode, and the strobe or manual features.

1. Press the P IN P button to turn the picture-in-picture function on.
2. Press the MULTI button repeatedly to select 1, 4 or 9 sub-pictures.
   When selecting 4 sub-picture or 9 sub-picture mode, the main screen will disappear and 4 or 9 sub-pictures will appear on the screen. The lower right hand corner of the screen plays back normally. If the 1 sub-picture mode is selected, the main screen will reappear.
3. Press the STROBE or SHIFT button.
   When the STROBE button is pressed, the picture will be displayed at specific intervals. At each interval, a still picture appears in one of the 4 (or 9) sub-pictures. The final screen picture plays back normally. Press the SHIFT button repeatedly if you wish to change the active sub-picture's position. The sub-picture selected most recently will play back normally.
4. To cancel the multi-picture feature:
   Press the MULTI button. The main and sub-screen will reappear. Alternatively, press the P IN P button to cancel the picture-in-picture function.



9 sub-picture mode



4 sub-picture mode

REMOTE CONTROL UNIT FACILITIES

To display the picture of several television stations using the channel scan feature

The channel scan feature can display 4 or 9 television station pictures at the same time. The stations which have been memorized in the TV tuner will be displayed on the split screen.

All the displayed pictures will appear as still images when the channel scan feature is engaged.

1 Press the TV INPUT SELECTOR button on the remote control unit or press the INPUT SELECTOR button on the Projection Monitor repeatedly until a TV program appears.

2 Press the CH SCAN button to display the first 4 stations on the screen. The memorized TV stations will appear in order from the top left corner to bottom right corner of the screen.

3 Press the MULTI button repeatedly to select 4- or 9-screen mode. The selected TV station will appear in the sub-screen in the upper left corner of the screen.

4 To display the next group of memorized TV stations: Press the CH SCAN button again.
Press the CH SCAN button repeatedly to select the memorized stations you wish to watch.

5 To cancel the channel scan feature:
Press the P IN P button again.

If you wish to select a station when the channel scan feature is engaged.

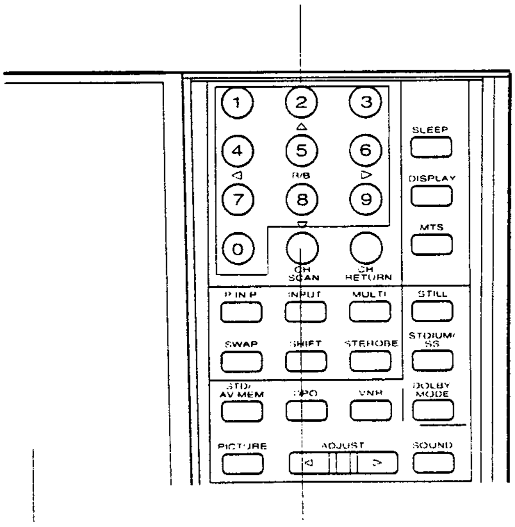
Press the direct channel selection pad you wish to select.

* Press the DISPLAY button to reappear channel numbers on the screen.

NOTE:

Non broadcasting station channel or no transmission service. In the case, transmission from the broadcasting station has stopped or you have selected a channel without broadcasting station, either a noise screen or the transmission of the last station received will appear on the screen, when channel scan feature are engaged.

Direct channel selection pad



Top panel*

CH SCAN button

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

Attention

Do not use the Picture-in-Picture function for more than 2 hours. It may damage the picture tubes inside the Projection Monitor. If you wish to this function for more than 2 hours. change the sub-picture position on the screen every once in a while by pressing the SHIFT button.

NOTES:

- *If only the S-VIDEO LD and VIDEO jacks are used to connect the LD player and VCR to the Projection Monitor, the Picture-in-Picture function will not operate when these buttons are pressed.*
- *The sound of the sub-picture(s) cannot be heard when the Picture-in-Picture system is engaged.*
- *When a copy-protected tape is played back in the main screen, the sub-picture may be distorted.*
- *With some VCRs, the screen may fluctuate, when the VCR is not in playback mode. This is not a malfunction.*
- *TV channels can be selected with the TV CHANNEL +/– button or the direct channel selection pad when the TV button of the INPUT SELECTOR is pressed. Both the main screen and the sub-picture will change TV channels at the same time when TV channels are selected.*
- *Signals output from the Projection Monitor will not be altered when the Picture-in-Picture function is engaged. Only the main picture signal is sent through the monitor output jacks.*
- *The picture-in-picture function will be cancelled automatically if none of buttons are pressed for more than 8 minutes when still mode, multi-mode or channel scan mode is engaged.*
- *If the input signal (including burst signal) is not supplied to the main screen, the picture-in-picture function will not function properly.*
- *During still playback, special effect playback, or when searching an LD or video cassette tape visually forward or backward using the main screen, shaking may occur in the sub-picture.*
- *After the multi-screen feature is engaged, input to the sub-screen cannot be changed by pressing the INPUT button. If you wish to change the input, press the MULTI button to cancel the multi-screen mode or select one sub-picture mode, and select the desired input source of main. Then select the multi-screen feature again.*
- *While P in P function is on, if main screen signal is cut, sub-picture may disappear.*
  If main screen signal is supplied again, the original mode will be restored. Pictures appear on both the main screen and sub-picture when the main screen signal is supplied.
- *If no TV program is received or picture is not clear, black and white picture will appear in the sub-picture when the CH SCAN button is pressed. If this happens, select a TV program tuned in clearly, then press the CH SCAN button.*
- *Channel scan feature can display only memorized TV stations which can be tuned using the TV tuner of the monitor.*
  If the RF terminal of the CATV converter is connected to the monitor, channel scan feature can display CATV converter selected station only, not all the stations memorized in the CATV converter.

REMOTE CONTROL UNIT FACILITIES

This remote control unit can "learn" the commands of other remote control units, regardless of their manufacturer, as long as the other unit is of the infrared type. In some cases you may still need the original remote control unit, but you will be able to use this unit for most of your video as well as audio system control needs.

NOTE:
It is advisable to program the unit in a room separate from the system with which it is to be used. This will prevent problems such as sudden high-volume output or accidental tape erasure that may occur if command signals reach your components during programming. Or, you may wish to unplug your component system and conduct programming in the same room. Simply turning off the power may not be sufficient since power on/off switching may also be remote controllable. Also do not throw away the original remote control units after programming. You might need the original ones in the future.

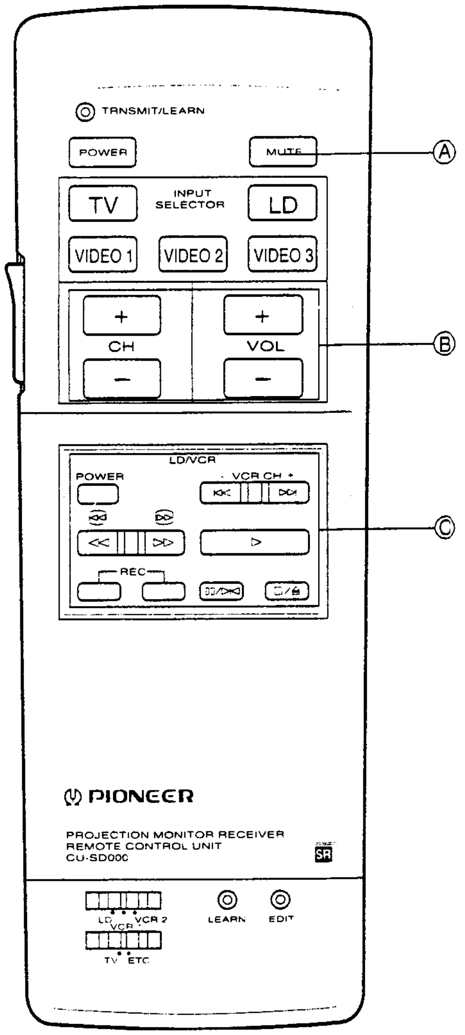
This remote control unit contains preprogrammed commands compatible with PIONEER equipment. If your home audio/video center consists exclusively of PIONEER components, you can use the unit without any additional programming. It is also possible to return to the original PIONEER commands after assigning other commands. (Refer to "Returning to the Initial Settings" for details.)

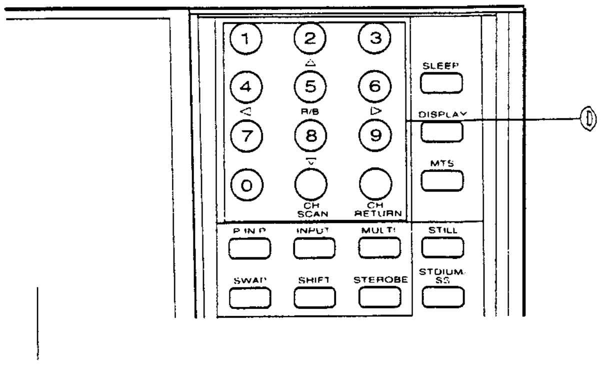
Which buttons can be programmed with new commands?

In areas Ⓐ, Ⓑ, Ⓒ and Ⓓ, the buttons can be programmed with a different command from another remote. In area Ⓒ, three set of commands can be programmed by selecting the TRANSMIT MODE switch.

Other Important Notes

- A total of 15 to 25 other codes can be memorized using these buttons. (This may vary depending on the command format of the codes to be memorized.)
- There are 2 buttons on the unit for recording, to help prevent misoperation. To start recording, or to memorize a command code with the REC buttons, both of them must be pressed at the same time.
- When the batteries run down, all functions will stop automatically. If the indicators no longer light or flash, or components do not respond to signals from the unit, the batteries need to be replaced. (Always use alkaline cells.)
- When programming buttons, make sure that both units are loaded with fresh batteries.
- Programming may be impossible from some types of infrared remote control units.


TRANSMIT/LEARN
POWER
MUTE
Ⓐ
TV
INPUT SELECTOR
LD
VIDEO 1
VIDEO 2
VIDEO 3
+
CH
−
+
VOL
−
Ⓑ
LD/VCR
POWER
- VCR CH +
REC
Ⓒ
PIONEER
PROJECTION MONITOR RECEIVER
REMOTE CONTROL UNIT
CU-SD000
LD
VCR
VCR 2
LEARN
EDIT
TV
ETC


1
2
3
4
5
6
7
8
9
0
R/B
CH SCAN
CH RETURN
SLEEP
DISPLAY
Ⓓ
MTS
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STROBE
STDIUM SS

Top panel*

REMOTE CONTROL UNIT FACILITIES

How to program the remote control buttons

Select the TRANSMIT MODE switch when programming the remote control buttons as shown in the illustration on page 24 (areaⒸ). Set the TV/ETC switch to ETC when programming the remote control buttons as shown in the illustration on page 24 (areas Ⓐ,Ⓑ or Ⓓ).

1 Press the LEARN button.
  - TRANSMIT/LEARN indicator will flash on and off.

2 Place the other remote control unit and the programmable remote control unit on a table facing each other, separated by a distance of 2 to 4 inches (5 to 10 cm). Be sure to place the remotes on a stable surface such as a table while doing this.

3 Press the button on the programmable remote control unit that you wish to program until the TRANSMIT/LEARN indicator goes off (approx. 1 second), and lights up.

4 Press a button on the other remote control unit until the TRANSMIT/LEARN indicator goes off (approx. 0.5 seconds), then flashes on an d off.

5 To program other buttons, repeat steps 3 and 4.

6 When finished, press the LEARN button.

7 Point the programmable remote control unit toward the corresponding component and check operation by pressing the buttons you just finished programming. If the component does not work as expected, repeat steps 1 to 7. Proceed to note 1, then repaet the above procedure.

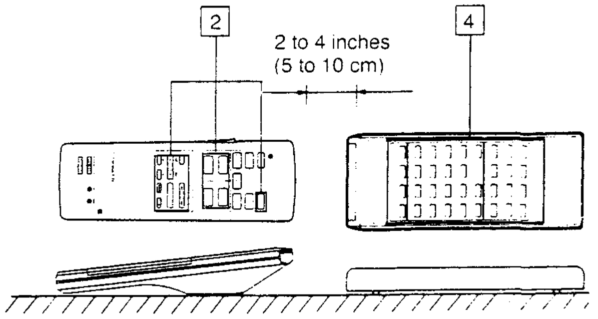
NOTE:

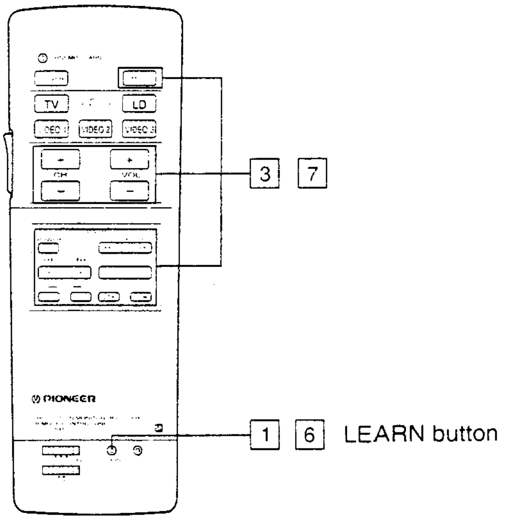
- *When programming, make sure that function indicators (e.g., ►, ►►, ■ ≜) are programmed from the original remote control unit into the matching keys of the programmable unit; this will greatly facilitate operation.*
- *Do not press the buttons excessively while performing programming operations.*
- *If the TRANSMIT/LEARN indicator flashes twice, it indicates an error has occured (Repeat the above procedure 1 thorugh 7).*
  If the TRANSMIT/LEARN indicator flashes four times, it indicates either that an error has occured or that the remote control unit's programming capacity has been exceeded. Repeat the above procedure (1 through 7). In the later case, the function last programmed will not be stored correctly. All previously programmed functions, however will be retained in the memory and may be used as they are if the last function is not essential.
  For re-programming information, refer to "Returning to the Initial Settings."

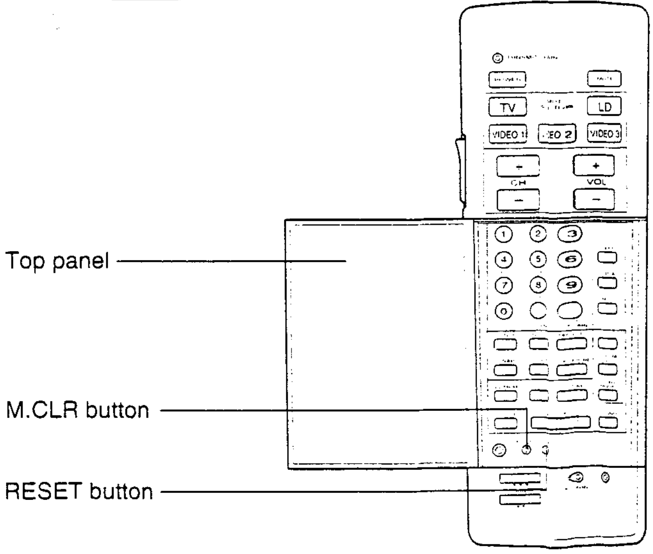
1. If programming is not carried out successfully:
- *Position the remote control units at a greater distance from each other.*
- *Position the remote control units slightly out of line with each other.*
- *Position the two remote control units, so that their transmitting windows face each other.*

2. If the remote control unit is directly subjected to strong fluorescent light, programming may not be possible.

3. If remote control operation is not successful although programming was successful:
- *Press the RESET button. (The programmed signals will not be erased.)*
- *Replace all the used batteries at once.*







If the memory becomes full even when you have used only a samll number of buttons for learning, take the following operation

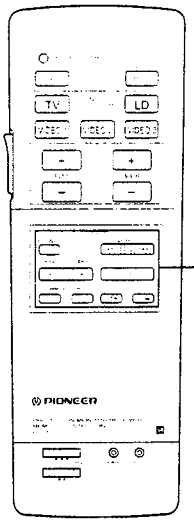
- **Check buttons already used for learning**

If the TRANSMIT/LEARN indicator remains lit after you have quickly pressed and released a button used for learning, memorization in that button is incorrect, resulting in the memory full condition. If you perform learning once more, abnormal data is cleared. returning you to normal conditions.

Editing preset remote control function

To recall a preset remote control signal (For VCR 1, 2 and LD) some kinds of remote control signal formats are already preset for basic LD player and VCR functions. If they conform with your LD player or VCR functions, you can automatically preset operation buttons with the desired format's remote control signals and use them to command operations. It is not necessary to learn operation one at a time. The following operation buttons can be preset to remote control signal format.
For details, see page 29.

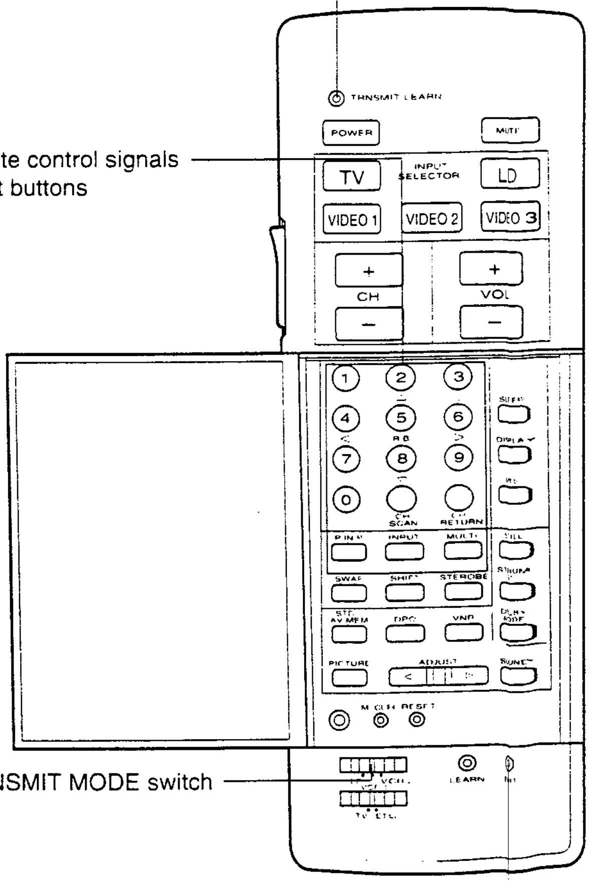
NOTE:
- *If there is a remote control operation button for a function your LD player or VCR does not have, operation is not possible.*



Preset function buttons

How to preset a remote control signal format

1. Select a preset mode LD player or VCR by setting the TRANSMIT MODE switch to LD, VCR1 or VCR2.
   - If you want to preset a LD player remote control signal format, set the switch to LD, for example.
2. Press the EDIT button to set the remote control mode to edit mode. The TRANSMIT/LEARN indicator will start flashing on and off.
   To cancel the edit mode, press the EDIT button again.
3. Select a preset remote control signal format by pressing 0, 1 to 9 numeric buttons, CH SCAN, CH RETURN, P IN P, INPUT or MULTI buttons.
   - Refer to the chart (page 27) before presetting a remote control signal format according to your used LD player or VCRs.
   - After one button is pressed, the LEARN/TRANSMIT indicator stay lit approximately one second. Remote control signal format preset is completed.
4. If the other remote control signal format is preset, set the TRANSMIT MODE switch to VCR 1 or VCR 2 for example, then repeat the above procedure 3 and 4.



TRANSMIT/LEARN indicator

Remote control signals preset buttons

TRANSMIT MODE switch

EDIT button

REMOTE CONTROL UNIT FACILITIES

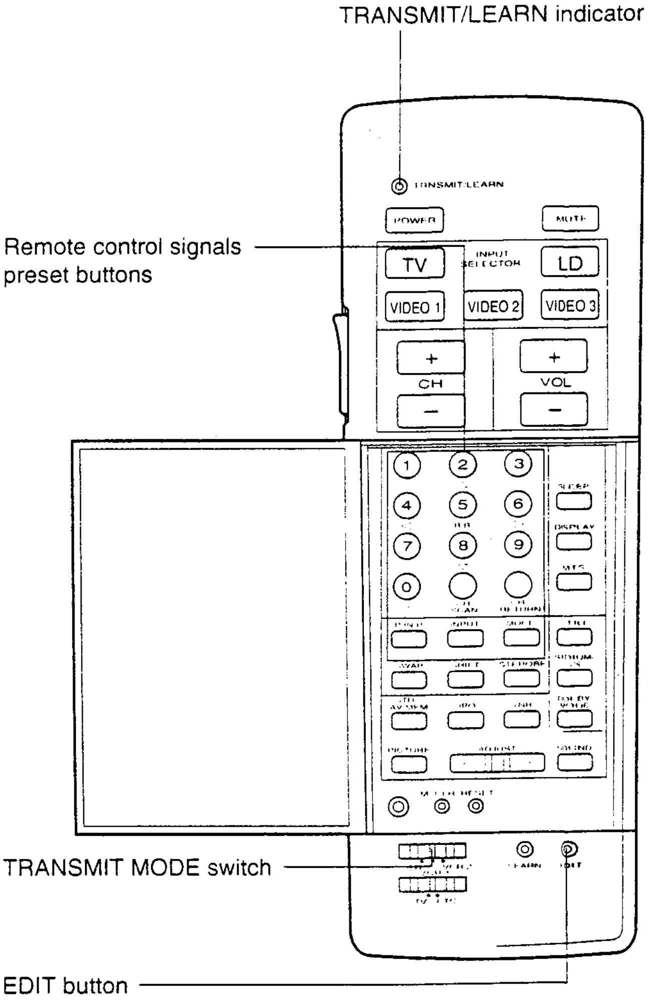
Operation example:

Presetting RCA VCR remote control signals to the remote control operation buttons when selecting the TRANSMIT MODE switch to VCR 1.

1. Set the TRANSMIT MODE switch to VCR 1.
2. Press the EDIT button.
   - The TRANSMIT/LEARN indicator will flashing on and off.
3. Press numeric button "1".
   - The TRANSMIT/LEARN indicator remains lit for approximately one second then will go off. RCA VCR remote control signals preset is completed to the remote control operation buttons.
4. Point the remote control at the sensor window of your RCA VCR you want to operate and press an operation button to confirm that remote control operation is possible.
   - If operation is possible, presetting has been completed.

NOTE:

- *After pressing the EDIT button, if you do not press a button within about one minute, the EDIT mode is cancelled.*
- *After presetting, you can use the LEARN mode to memorize a command in a preset button, but the preset signal is erased.*
- *After memorizing in the LEARN mode, if you preset operation buttons under specified buttons, signals memorized in the LEARN mode are cleared.*



[Remote control codes of other manufacturers]

The following table shows the operation buttons of the remote control unit used to call up the remote control codes of other manufacturer. Preset remote control signals/codes in the table, however, may not always enable operation. If operation is not possible, switch to the LEARN mode, and learn signals from the LD player or VCR remote control unit. Numbers in parenthesis indicate a reduced possibility of operation.

Operation button and Manufacturer's preset remote control signals

TRANSMIT MODE switch position	LD	VCR 1 or VCR 2
Operation button on the remote control unit	Manufacturers	Manufacturers
1	None	RCA
2	None	SHARP
3	None	ZENITH
4	SONY (MDP Series)	SONY
5	SONY (LD Series)	TOSHIBA
6	KENWOOD	HITACHI
7	PHILIPS	PHILIPS
8	PANASONIC	PANASONIC
9	PANASONIC	MITSUBISHI
0	PIONEER	PIONEER
CH SCAN	None	GOLDSTAR
CH RETURN	None	FISHER
P IN P	None	JVC
INPUT	None	NEC
MULTI	None	SANYO

Questions and Answers on Programming Commands

Q: The remote control unit for my VCR has two REC buttons, which both have to be programmed at the same time to start recording. How should I program this into my programmable remote control unit?

A: Press and hold both REC buttons on the programmable remote control until the TRANSMIT/LEARN indicator lights up, and then press the two buttons on the VCR remote control simultaneously.

Q: The remote control unit of my VCR has a REC button and a PLAY button, and they both have to be pressed at the same time to start recording. How should I program this into my programmable remote control unit?

A: Press and hold both REC buttons on the programmable remote control until the TRANSMIT/LEARN indicator lights up, and then press the REC and PLAY buttons on the VCR remote control simultaneously.

NOTE:

If both buttons are not pressed simultaneously in the above mentioned operations, the commands will not be memorized.

Battery Replacement

Replace the batteries as soon as possible if pressing the control keys does not cause the TRANSMIT/LEARN indicator to light even after the RESET button has been pressed. Be sure to always use the specified batteries (LR6/AM3 alkaline batteries).

NOTE:

- *With batteries loaded and the cover off, memory is retained for about 15 minutes.*
- *Be very careful not to lose the battery compartment cover.*

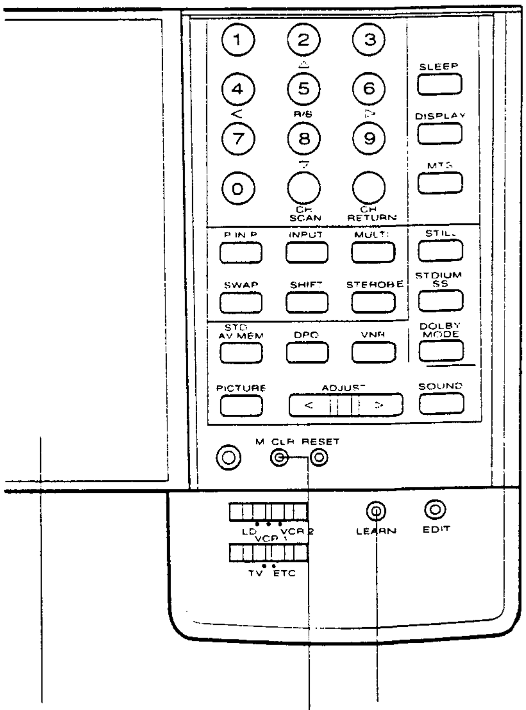
Returning to the Initial Settings

Follow the instructions below to return all settings to the PIONEER Remote Control Code Settings.

① Press the LEARN button.

② Using a ball-point pen or similar object, press and hold the M. CLR button down until the indicator flashes and then goes out.

All commands you programmed will be erased, and the unit will be reset to use codes initially set by PIONEER.


1
2
3
4
5
6
7
8
9
0
SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STROBE
STDIUM SS
STD AV MEM
DPC
VNR
DOLBY MODE
PICTURE
ADJUST
SOUND
M CLR RESET
LD VCR 1 VCR 2
TV ETC
LEARN
EDIT
Top panel*
LEARN button
M. CLR button

---

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

REMOTE CONTROL UNIT FACILITIES

Control keys for a PIONEER LD Player and VCR bearing the SR mark

This remote control unit can be used to operate some functions of Pioneer SR marked VCRs and LD players.
With Pioneer SR marked models, some remote control functions are not operable.
The TRANSMIT MODE switch is used to select whether the programmable remote control unit operation buttons will function as LD or VCR control buttons.

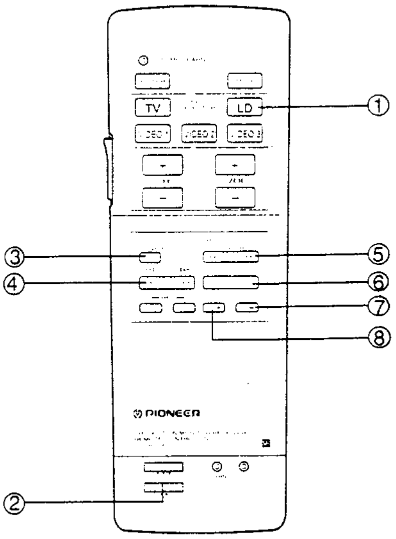
LD Player Control

① **Press the LD INPUT SELECTOR button to set the input selector of the monitor to LD.**
After presetting the remote control codes of the programmable remote control unit, close the top panel.
② **Set the TRANSMIT MODE switch to LD.**
③ **Press the POWER key to turn the power on.**
④ **Scan (◄◄/►►) button**
Press the ►► side of the button to search in the forward direction while playing back the videodisc.
Press the ◄◄ side of the button to search in the reverse direction while playing back the videodisc.
⑤ **Chapter Skip button (|◄◄/►►|)**
Press the ►►| side of the button to skip directly to beginning of the next chapter. press the |◄◄ side to skip directly back to the beginning of the chapter currently in play. This operation can only be performed on an LD Player with chapter skip function.
⑥ **Play (►) button**
Press to begin playback.
⑦ **Stop/Eject (■ ⏏) button**
Press once to stop playback, twice to eject the disc.
⑧ **Pause/Still (II/►◄) button**
Press to interrupt videodisc playback temporarily. Press the button again to resume playback.

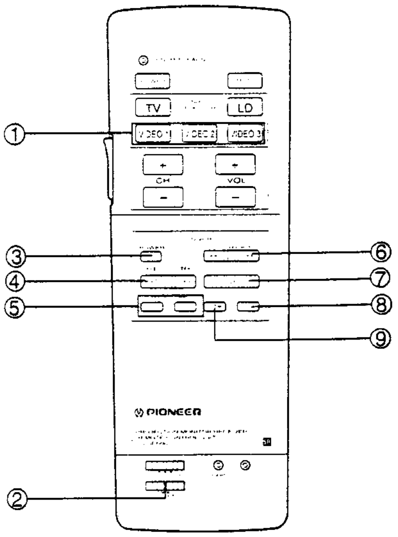
VCR Control

① **Press the VIDEO INPUT SELECTOR button to set the input selector of the monitor to VIDEO.**
After presetting the remote control codes of the programmable remote control unit, close the top panel.
② **Set the TRANSMIT MODE switch to VCR1.**
③ **Press the POWER button to turn the power on.**
④ **Rewind/Fast Forward (◄◄/►►) button**
This button allows high-speed movement through parts of the tape that you don't wish to watch. Press the left side of the button to rewind the tape, and the right side to advance.
During playback, use this button to search visually forward or backward.
Keep pressing the left or right side of the button until the section you wish to watch appears, then release it to resume normal speed playback.
⑤ **REC (Record) buttons**
Press both buttons at the same time to start recording.
⑥ **VCR CHANNEL +/– button**
Press to select the channel of the TV tuner on the VCR.
⑦ **Play (►) button**
Press to begin playback.

[LD]



[VCR]

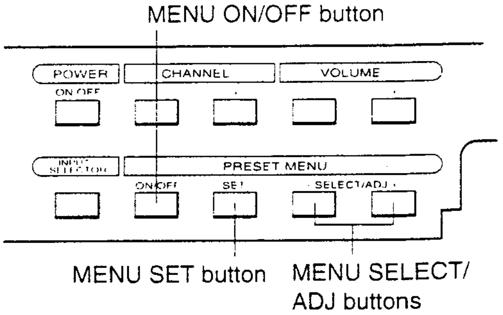


⑧ **Stop/Eject (■ ⏏) button**
Press once to stop playback.
* Eject function will be performed only if your VCR is equipped with the remote control eject function.
⑨ **Pause/Still (II/►◄) button**
Temporarily interrupts recording or playback, producing a still picture during playback.

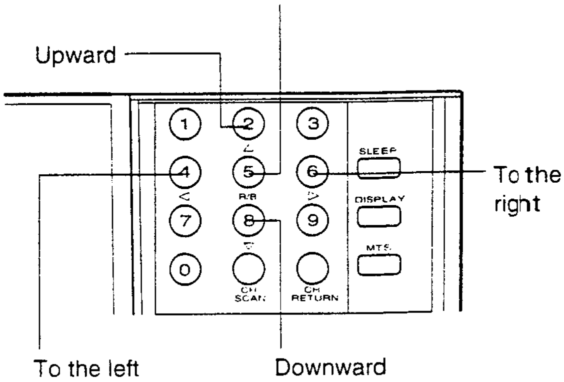
HOW TO ALIGN COLOR CONVERGENCE

This Projection Monitor uses three separate TV tubes - a red, a green, and a blue tube. The red, green and blue images are projected onto the screen where they converge to form a full color picture. If they do not converge correctly, then you will see colored borders around the images.
Your dealer should adjust the color convergence when your monitor is delivered. However, convergence may drift over time or if you move the monitor.
Follow the steps below if color convergence alignment is needed.

1. Turn on the power and select an active channel. Wait a moment for the picture to stabilize.
2. Press the MENU ON/OFF button on the control panel. The monitor screen displays the menu (CONVERGENCE, AV MEMORY, DPO BASE, INPUT LABEL, TV-CATV MODE, SYSTEM MODE, and TUNER PRESET). Make sure that "CONVERGENCE" is displayed in red. If not, press the MENU SELECT/ADJ buttons until "CONVERGENCE" turns red.
3. Press the MENU SET button on the control panel. If color convergence is correct, there will be one vertical white line and one horizontal white line, as shown in figure 1.
4. If you see separate colored lines (Fig. 2 to 4), use the ⑤ R/B , ④ ◄, ⑥ ►, ② ▲ , and ⑧ ▼ buttons on the remote control unit to make the red and blue lines disappear into the other lines.
   Each time the ⑤R/B button is pressed, the line to be controlled (red or blue) alternates.
   Pressing the ④ ◄ button moves the vertical line to the left, while pressing the ⑥ ► button moves the vertical line to the right.
   Pressing the ② ▲ button moves the horizontal line upward, while pressing the ⑧ ▼ button moves the horizontal line downward.
   In figure 2, for example, press the ⑤R/B button to control the red line, and then press the ④ ◄ button until the red line converges.
   Press the ⑤R/B button again to control the blue line, and then press the ⑧ ▼ button until the blue line converges. Convergence is correct when all three colors (red, green, and blue) converge, producing single white lines.
5. Press the MENU ON/OFF button when convergence is correct.


MENU ON/OFF button
POWER
ON OFF
CHANNEL
VOLUME
INPUT SELECTOR
PRESET MENU
ON/OFF
SET
SELECT/ADJ
MENU SET button
MENU SELECT/ ADJ buttons

Each time the ⑤R/B button is pressed the line (red or blue) to be controlled changes alternately


Upward
1
2
3
4
5
6
SLEEP
R/B
DISPLAY
7
8
9
MTS
0
CH SCAN
CH RETURN
To the right
To the left
Downward

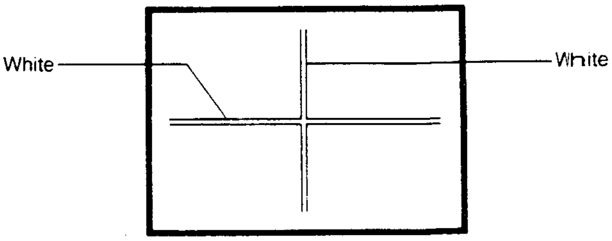

White
White

Fig. 1 Correctly aligned

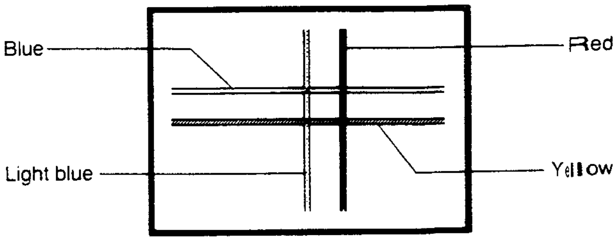

Blue
Red
Light blue
Yellow

Fig. 2 Horizontal and vertical misalignment

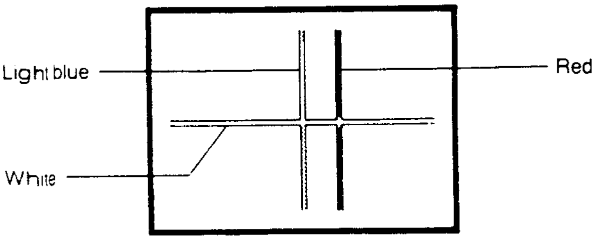

Light blue
Red
White

Fig. 4 Horizontal misalignment

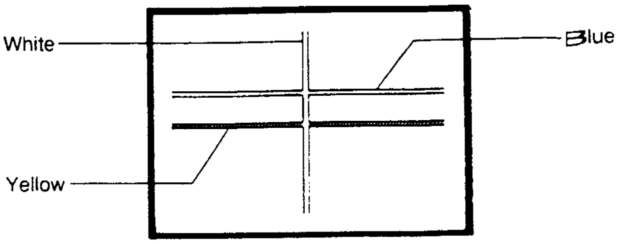

White
Blue
Yellow

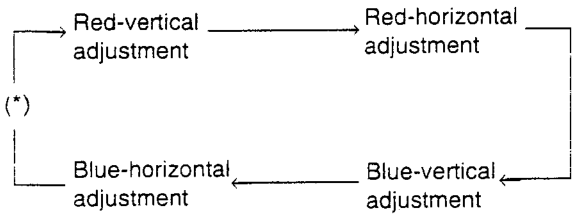
Fig. 3 Vertical misalignment

HOW TO ALIGN COLOR CONVERGENCE

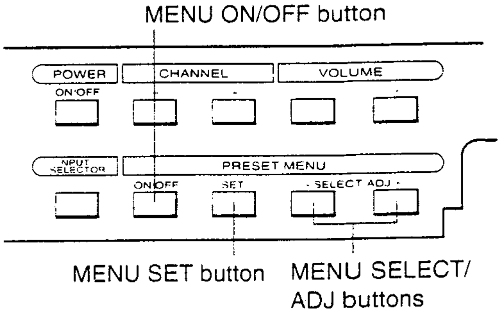
Color convergence alignment without using the remote control unit

Color convergence adjustment can be performed by either the operation keys of the remote control unit as described in operation 4 of the above procedures, or the MENU SELECT/ADJ buttons and MENU SET button on the control panel as described below:

① **Press the MENU SET button to select the adjustment mode.**
The adjustment modes appear in the following order:
- Convergence adjustment test pattern and arrow will appear on the screen accordingly.


Red-vertical adjustment
Red-horizontal adjustment
(*)
Blue-horizontal adjustment
Blue-vertical adjustment

* Alignment proof mode; selected image only appears.


MENU ON/OFF button
POWER
ON/OFF
CHANNEL
+
-
VOLUME
+
-
INPUT SELECTOR
PRESET MENU
ON/OFF
SET
- SELECT ADJ +
MENU SET button
MENU SELECT/ADJ buttons

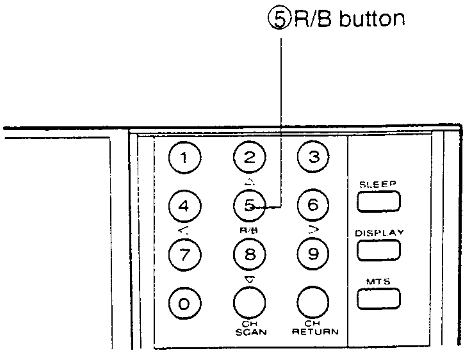
② **Use the SELECT/ADJ buttons as follows:**
During Red or Blue Vertical adjustment
Press the + button to move the horizontal line upwards.
Press the – button to move the horizontal line downwards.
During Red or Blue Horizontal adjustment
Press the + button to move the vertical line to the right.
Press the – button to move the vertical line to the left.

HOW TO ALIGN COLOR CONVERGENCE

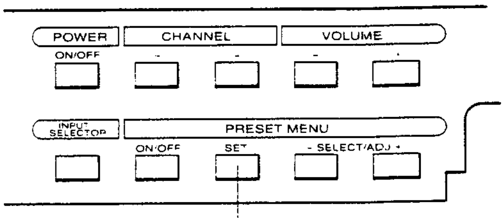
Notes for the convergence alignment adjustment

By repeatedly pressing the ⑤R/B button or the MENU SET button when the convergence alignment adjustment is engaged, a selected image can be displayed on the screen instead of the alignment cross pattern.
This is the alignment proof mode, which allows you to check the center of the images to ensure that colored borders are not seen after the adjustment.
In the alignment proof mode the alignment can also be adjusted by pressing the ②, ④, ⑥ and ⑧ buttons or pressing the MENU SELECT/ADJ button. However, it is difficult to adjust the alignment properly when only the images appears on the screen.
If you can still see colored borders around the images, press the ⑤R/B button or the MENU SET button again until the proper convergence alignment pattern reappears, and adjust the alignment by following the operations described on the previous page.
After all convergence alignment adjustment is finished, press the MENU ON/OFF button to set the monitor to its normal mode.

⑤R/B button



* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.



MENU SET button

Each time the ⑤R/B button is pressed, the alignment adjustment mode will change as follows:

Red (Alignment pattern appears) → **Blue** (Alignment pattern appears) → **Red** (Selected image only appears) [Alignment proof mode] → **Blue** (Selected image only appears) [Alignment proof mode] → **Red** (Alignment pattern appears)

Convergence alignment adjustment can be performed by pressing the ②, ④, ⑥ and ⑧ buttons on the remote control after the alignment mode is selected.

Each time the MENU SET button is pressed, the alignment adjustment will change as follows:

Red-vertical adjustment
(Alignment pattern appears)

Red-horizontal adjustment
(Alignment pattern appears)

Blue-vertical adjustment
(Alignment pattern appears)

Blue-horizontal adjustment
(Alignment pattern appears)

Red-vertical adjustment
(Selected image only appears)
[Alignment proof mode]

Red-horizontal adjustment
(Selected image only appears)
[Alignment proof mode]

Blue-vertical adjustment
(Selected image only appears)
[Alignment proof mode]

Blue-horizontal adjustment
(Selected image only appears)
[Alignment proof model]

Convergence alignment adjustment can be performed by pressing the MENU SELECT/ADJ button on the front panel after the alignment mode is selected.

TV CHANNEL SELECTION

The Projection Monitor uses a frequency synthesizer tuning system to permit reception of up to 127 channels (including cable channels). This electronic tuning system gives you two ways of selecting channels.
You can use the remote control buttpns numbered "0" through "9" to directly input the channel number. Or you can use the two TV CHANNEL buttons marked "+" and "–" on the remote control unit or theTV CHANNEL buttons marked "+" and "–" on the control panels to select one channel after another. In the latter case, you can remove or add channels to "TUNER PRESET" so that it contains only those channels that you usually watch.
The 127 possible channels include broadcast TV channels 2-13 (VHF), 14-69 (UHF), as well as cable (CATV) channels 1-13 (VHF), 14-22 (mid-band), 23-36 (super-band), 37-65 (hyper-band), and 94-99 (mid-band).

NOTE:

- *TUNER PRESET refer to channel access by pressing the CHANNEL buttons marked "+" and "–". You can specify which channels are to be included in TUNER PRESET before using this function. Details follow.*

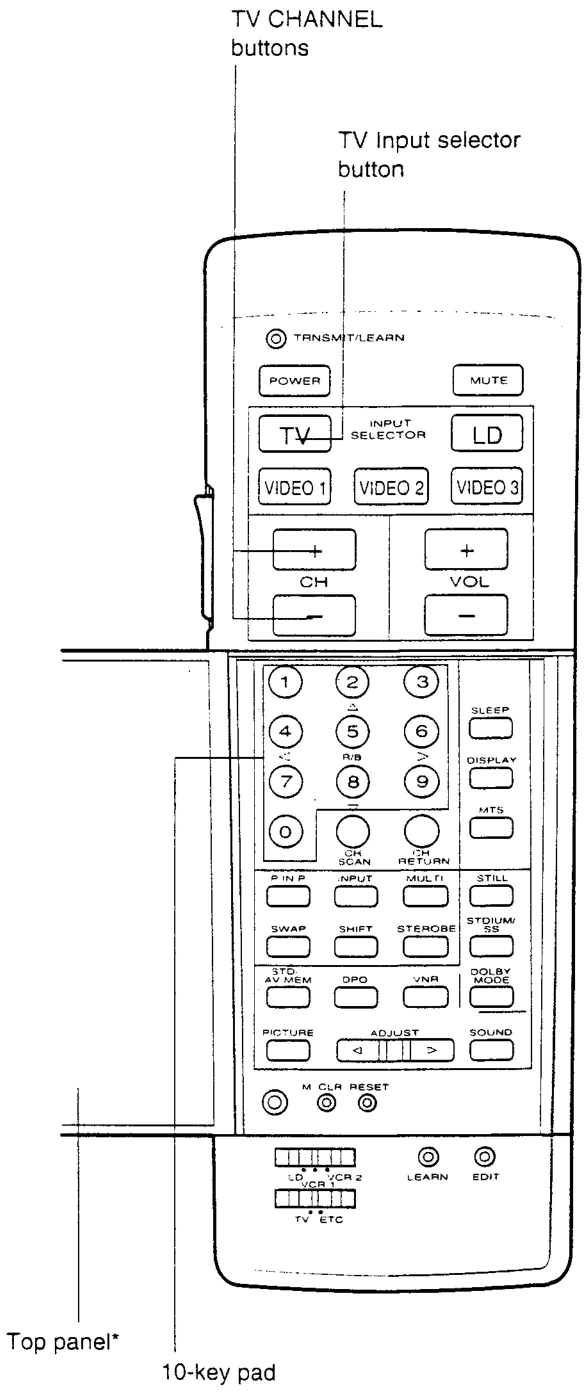
BROADCAST TV CHANNEL SELECTION (When the VHF/UHF antenna is connected to the ANTENNA terminal on the rear panel.)

1 **Press the INPUT SELECTOR button so that "TV CHXX" appears on the monitor screen, or press the TV input selector button on the remote control unit.**

2 **Select channels directly by pressing the channel number on the remote control "CHANNEL CALL" 10-key pad.**
For example, to receive channel "23", press 2 and then 3. For channels 2 through 9, first press 0 (zero), then the number; or just press the number and wait for about four seconds. (While waiting for you to input a second digit, the first digit blinks. If you do not input a second digit within 4 seconds, then the first digit is selected as the channel number.)

3 **Channel memory selection is also possible.**
Using the TV CHANNEL buttons marked "+" and "–" on the remote control unit or TV CHANNEL buttons marked "+" and "–" on the control panel you can scan through the channels which are in tuner preset. To add or delete channels from memory, see TUNER PRESET on page 38.

NOTE:
Cancel the non-broadcasting station channels from the memory of the Projection Monitor, before selecting channels.

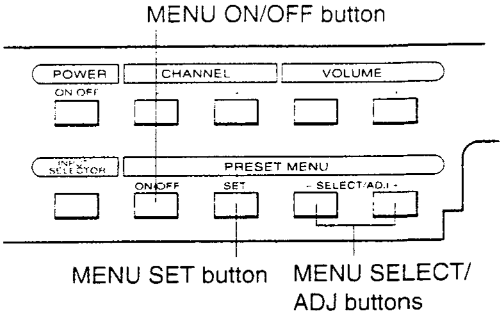

TV CHANNEL buttons
TV Input selector button
TRANSMIT/LEARN
POWER
MUTE
TV
INPUT SELECTOR
LD
VIDEO 1
VIDEO 2
VIDEO 3
CH
VOL
SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STEROBE
STDIUM/SS
STD. AV MEM
DPO
VNR
DOLBY MODE
PICTURE
ADJUST
SOUND
M CLR RESET
LD VCR 1 VCR 2
LEARN
EDIT
TV ETC
Top panel*
10-key pad

---

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

PRESETTING YOUR CATV SYSTEM (When the cable box output is connected to the ANTENNA terminal on the rear panel.)

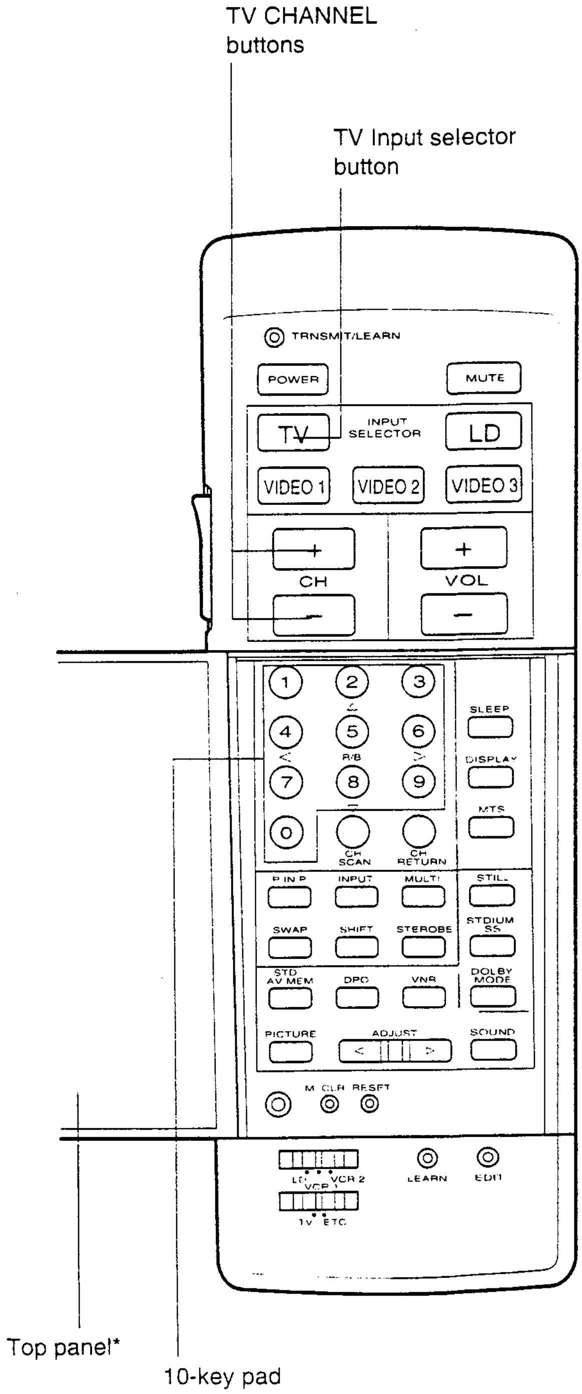
1. **Press the INPUT SELECTOR button so that "TV CHXX" appears on the monitor screen, or press the TV input selector button on the remote control unit.**
2. **Turn on the menu with the MENU ON/OFF button and press the MENU SELECT/ADJ buttons so that the TV-CATV MODE display turns red.**
3. **Press the MENU SET button. Each press the MENU button, "AIR", "STD" or "HRC" appears on the screen.**
4. **Select "STD (standard)" or "HRC" with the MENU SET button.** (Ask your dealer or cable service provider which is correct for your local CATV system.) Each press of the MENU SET button moves the selection from AIR to STD, to HRC, and then back to AIR again.
   The displayed mode ("STD" or "HRC") is now preset in the ANTENNA memory, so you can receive your local
5. **CATV broadcast when the TV is turned on.**
   Press the MENU ON/OFF button to return to normal operation.


MENU ON/OFF button
POWER
ON OFF
CHANNEL
VOLUME
INPUT SELECTOR
PRESET MENU
ON/OFF
SET
- SELECT/ADJ -
MENU SET button
MENU SELECT/ ADJ buttons

CABLE (CATV) CHANNEL SELECTION

It is necessary to preset your local CATV system in ANTENNA memory. To preset your CATV system, see "PRESETTING YOUR CATV SYSTEM".

1. **Press the INPUT SELECTOR button so that "TV CHXX" appears on the monitor screen, or press the TV input selector button on the remote control unit.**
2. **Select channels directly by pressing the channel number on the remote control 10-key pad.**
   For example, to receive channel "23", press the 2 and then 3. For channels 1 through 9, first press 0 (zero), then the number; or just press the number and wait for about four seconds. Note that channel numbers "00", and "66" through "93" are not assigned, so the selected channel will not change if you input these numbers.
   You can select VHF channels (1-13), mid-band channels (A1-A6, A-I), super-band channels (J-W), and hyper-band channels (AA-CCC). Refer to the standard cable channel assignment table shown on page 31. Your local cable service provider's channel assignments may differ from those shown in the table.
3. **Channel memory selection is also possible.**
   Using the TV CHANNEL buttons marked "+" and "–" on the remote control unit or the TV CHANNEL buttons marked "+" and "–" on the control panel you can scan through the channels in channel memory. To add or delete channels from memory, see TUNER PRESET on page 38.


TV CHANNEL buttons
TV Input selector button
TRNSMIT/LEARN
POWER
MUTE
TV
INPUT SELECTOR
LD
VIDEO 1
VIDEO 2
VIDEO 3
CH
VOL
SLEEP
DISPLAY
MTS
CH SCAN
CH RETURN
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STEROBE
STDIUM SS
STD AV MEM
DPC
VNR
DOLBY MODE
PICTURE
ADJUST
SOUND
M CLR RESET
LEARN
EDIT
LD
VCR 2
VCR 1
TV
ETC
Top panel*
10-key pad

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

TV CHANNEL SELECTION

CABLE (CATV) CHANNEL ASSIGNMENT TABLE

Channel number assignment for the cable tuning mode begins with 01 through 65, omits the unassigned numbers 66 through 93, then proceeds from 94 through 99. The specific channel number assignments and the corresponding alphabetical designation are shown below in the channel table.

	VHF L	MID		VHF H	SUPER	HYPER			UHF
TV	2 ~ 6	—		7 ~ 13	—	—			14 ~ 69
CATV	2 ~ 6 (STD) 1~ 6 (HRC)	A-6 (94)	A (14)	7 ~ 13	J (23) Q (30)	AA (37)	KK (47)	TT (56)	—
		A-5 (95)	B (15)		K (24) R (31)	BB (38)	LL (48)	UU (57)	
		A-4 (96)	C (16)		L (25) S (32)	CC (39)	MM (49)	VV (58)	
		A-3 (97)	D (17)		M (26) T (33)	DD (40)	NN (50)	WW (59)	
		A-2 (98)	E (18)		N (27) U (34)	EE (41)	OO (51)	XX (60)	
		A-1 (99)	F (19)		O (28) V (35)	FF (42)	PP (52)	YY (61)	
			G (20)		P (29) W (36)	GG (43)	QQ (53)	ZZ (62)	
			H (21)			HH (44)	RR (54)	AAA (63)	
			I (22)			II (45)	SS (55)	BBB (64)	
						JJ (46)		CCC (65)	

For example: Channel number "14" corresponds to mid-band cable channel "A".

NOTE:

- *Cable (CATV) services can vary from area to area. The channel number assignments shown in the channel table may not correspond with the channel numbers used by your local cable company. Direct tuning to cable channels without the use of the cable company "converter" or "preselector" will depend on the specific channels in use by the cable company. Direct tuning to cable channels is limited to unencoded (unscrambled) channels only. Check your local cable company compatibility requirements.*

MULTI-CHANNEL TV SOUND (MTS)

A multi-channel TV sound decoder is built into the Projection Monitor.
This MTS decoder permits stereo and SAP sound reception. (SAP is a "second audio program" often used for a second language.) The MTS decoder is only effective if the broadcast includes stereo or SAP signals.

STEREO RECEPTION

If necessary, use the remote control MTS button to switch to the MAIN setting. The set will switch automatically between mono and stereo according to the signals received.

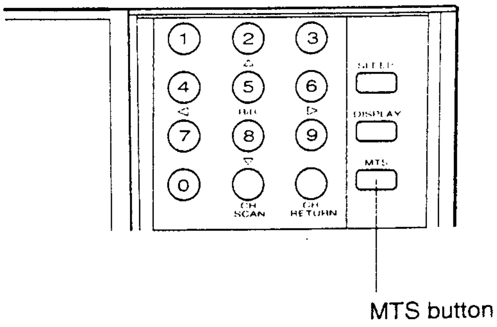
MONO RECEPTION

You can force monophonic reproduction of all programs by using the MTS button to select MONO.
If you hear a lot of static while receiving a stereophonic TV program, set the MTS mode to MONO by pressing the MTS button.

SAP (SECOND AUDIO PROGRAM) RECEPTION

TV stations have the option of broadcasting a second audio program (SAP) signal. This additional sound channel accompanies another mono signal or stereo signal. However, the SAP sound itself is in mono.

Use the MTS button to switch to the SAP or MAIN/SAP setting if you wish to hear the "second audio program" sound. (At the MAIN/SAP setting, the SAP sound will come from the right speaker while the left speaker produces the main sound signal.)
You will still hear stereo or mono sound when there is no SAP signal.



* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

NOTE:
The MTS display is shown on the screen when the channel is tuned in, or the DISPLAY button on the remote control unit is pressed.
- *Broadcast stereo and SAP reception operate in accordance with the Broadcast Television Systems Committee (BTSC) standard only. Stereo audio transmission from CATV (Cable television) systems can vary from area to area and may not be compatible with the BTSC standard. Check with your local cable company for specific compatibility require-*

Audio Reception Mode Display (selected by the MTS button)

Mode selected	Broadcasted mode	MONO	STEREO	MONO + SAP	STEREO + SAP
MAIN	Display	TV CH 00	TV CH 00 STEREO	TV CH 00 MAIN	TV CH 00 STEREO (SAP)
	REPRODUCTION Mode	MONO	L and R	MONO (MAIN)	L and R
SAP	Display	TV CH 00	TV CH 00 STEREO	TV CH 00 SAP	TV CH 00 SAP (STEREO)
	REPRODUCTION Mode	MONO	L and R	SAP	SAP
MAIN/SAP	Display	TV CH 00	TV CH 00 STEREO	TV CH 00 MAIN/SAP	TV CH 00 MAIN/SAP (ST)
	REPRODUCTION Mode	MONO	L and R	L; MONO (MAIN) R; SAP	L; MONO (MAIN) R; SAP
MONO	Display	TV CH 00 MONO	TV CH 00 MONO	TV CH 00 MONO	TV CH 00 MONO
	REPRODUCTION Mode	MONO	MONO	MONO (MAIN)	MONO (MAIN

HOW TO RELABEL INPUT DISPLAYS

The input label function can be used to replace the input displays; such as LD, VIDEO 1,VIDEO 2 or VIDEO 3; with the model numbers or model names of the components that are connected to the monitor. For example, you can display 'LD-S2' on the screen when selecting the LD input source. The input label can be up to 8 characters long the 43 characters, including _ (space), listed below.

1. Turn on the monitor and select the input (LD or VIDEO) that you wish to replace with the model number of the unit connected to the monitor.
   Example: Replacing the LD display with model number 'LD-S2'.
2. Press the MENU ON/OFF button, and then press the MENU SELECT/ADJ buttons until the INPUT LABEL display turns red.
3. Press the MENU SET button. 'LD' will appear in the right-hand corner of the screen.
4. Press the MENU SELECT/ADJ buttons to select the desired character.
   * Press the + or - button repeatedly until the desired character appears.
5. Press the MENU SET button to set the selected character.
6. If you wish to select additional characters, repeat steps 4 and 5.
7. Press the MENU ON/OFF button once when you finish replacing the input labels.

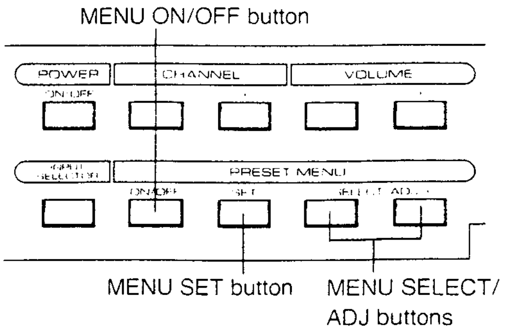
Now you can display the model number by pressing the remote control INPUT SELECTOR key or the control panel INPUT SELECTOR button.

NOTE:

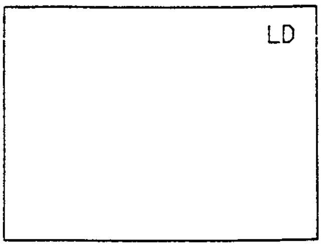
- *The following 43 characters, including _ (Space), can be selected.*

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789:<>-., _
Space

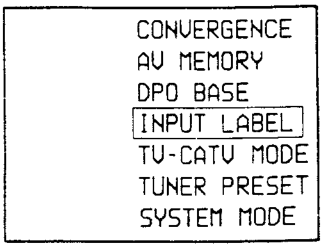
- *Make sure to press the MENU SET button after selecting the character.*


MENU ON/OFF button
POWER
CHANNEL
VOLUME
ON/OFF
INPUT SELECTOR
PRESET MENU
ON/OFF
SET
SELECT ADJ
MENU SET button
MENU SELECT/ ADJ buttons

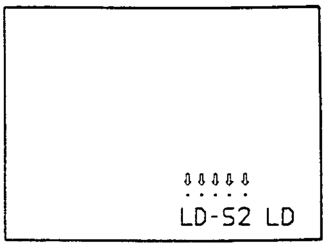
1



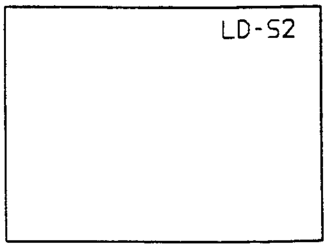
2


CONVERGENCE
AV MEMORY
DPO BASE
INPUT LABEL
TV-CATV MODE
TUNER PRESET
SYSTEM MODE

3 4 5 6



7

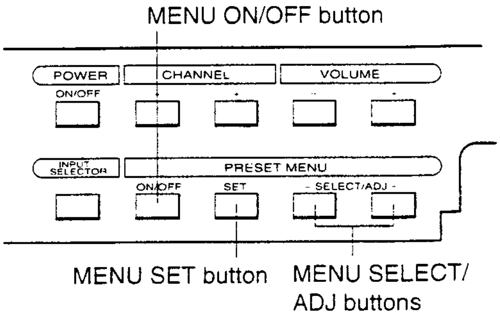


TUNER PRESET

You can customize this special tuning system so that it will select only your personal choice of channels. When the Projection Monitor leaves the factory, all possible channels are in TUNER PRESET.
Using the menu function you can add or delete channels to or from TUNER PRESET to suit your tastes.
TUNER PRESET can be set to match your personal preferences among the channels available in your area. Please refer to your local TV or cable program guide. Follow the procedures below to customize TUNER PRESET to your requirements.

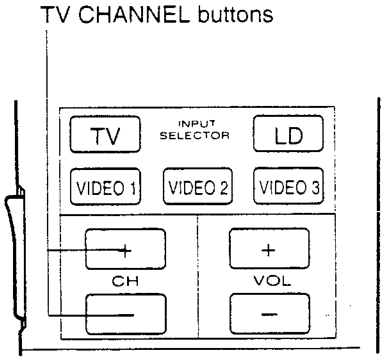
Removing channels from TUNER PRESET

1. Turn on the monitor and set the input selector to TV mode.
2. Turn on the MENU ON/OFF button, and press the MENU SELECT/ADJ buttons until the TUNER PRESET display turns red.
3. Press the MENU SET button. The channel numbers appear on the screen.
4. Press the MENU SELECT/ADJ buttons until the channel number to be deleted blinks (the preset channel numbers are displayed in green).
5. Press the MENU SET button to delete the currently selected channel from TUNER PRESET. The blinking number turns red. The red numbers show the deleted channel numbers.
6. Repeat steps 4 and 5 to delete additional undesired channels.
7. Press the MENU ON/OFF button after presetting is completed.



Adding channels to TUNER PRESET

1. Turn on the monitor and set the input selector to TV mode.
2. Turn on the MENU ON/OFF button, and press the MENU SELECT/ADJ buttons until the TUNER PRESET display turns red.
3. Press the MENU SET button. The channel numbers appear on the screen.
4. Press the MENU SELECT/ADJ buttons until the channel number to be added blinks (the deleted channel numbers are displayed in red).
5. Press the MENU SET button to add the currently selected channel to TUNER PRESET. The blinking number turns green. The green numbers show the added channel numbers.
6. Repeat steps 4 and 5 to add additional desired channels.
7. Press the MENU ON/OFF button after presetting is completed.



Now you can recall the preset channels by pressing the remote control TV CHANNEL "+" and "−" buttons or the control panel CHANNEL "+" and "−" buttons.
* Set the TV/ETC mode switch on the remote control unit to TV before pressing the TV CHANNEL buttons

Other memory features

The Projection Monitor also remembers many other settings related to day-to-day operation. So when you turn the monitor on, it comes up with your previous channel and volume settings. It also remembers your previous picture quality settings.

USING THE STATION LABEL FUNCTION

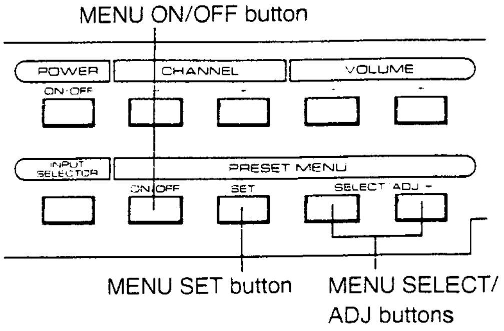
The station label function can be used to label each station with a call sign, network name, etc. For example, 'ABCD' can be displayed on the screen when that TV station is selected. The station label can be up to 4 characters long using the 43 characters, including _ (space) listed below.

1. Turn on the monitor and set the input selector to TV mode.
2. Press the MENU ON/OFF button, to display the MENU. Then press the MENU SELECT/ADJ buttons until the INPUT LABEL display turns red.
3. Press the MENU set button. The TV channel display appears.
4. Press the MENU SELECT/ADJ button repeatedly until the desired TV channel is displayed.
5. When the desired channel is displayed, press the MENU SET button. The first character in the display turns red.
6. Press the MENU SELECT/ADJ buttons repeatedly to select the desired character (the first character of your station label).
   Press the + or - button repeatedly until the desired character appears.
7. When the selected character is displayed, press the MENU SET button. The second character in the display turns red.
8. Repeat steps 4 and 5 to input each of the remaining three characters.
9. To input station labels for other channels, repeat steps 3-6.
10. Press the MENU ON/OFF button when you finish inputting all of the desired station labels.

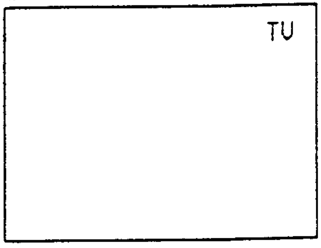
NOTE:
- *The following 43 characters, including _ (Space), can be selected.*

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789:<>-., _
Space

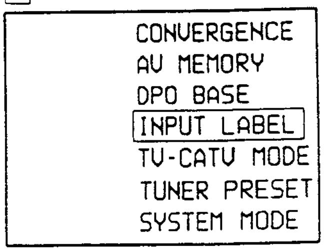
- *Make sure to press the MENU SET button after selecting the character.*


MENU ON/OFF button
POWER
CHANNEL
VOLUME
ON·OFF
+
-
+
-
INPUT SELECTOR
PRESET MENU
ON/OFF
SET
SELECT ADJ -
MENU SET button
MENU SELECT/ ADJ buttons

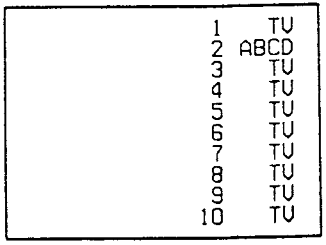
1



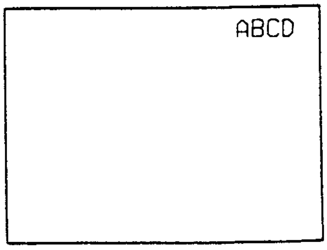
2


CONVERGENCE
AV MEMORY
DPO BASE
INPUT LABEL
TV-CATV MODE
TUNER PRESET
SYSTEM MODE

3 ~ 9


1 TV
2 ABCD
3 TV
4 TV
5 TV
6 TV
7 TV
8 TV
9 TV
10 TV

10



PICTURE AND SOUND ADJUSTMENT

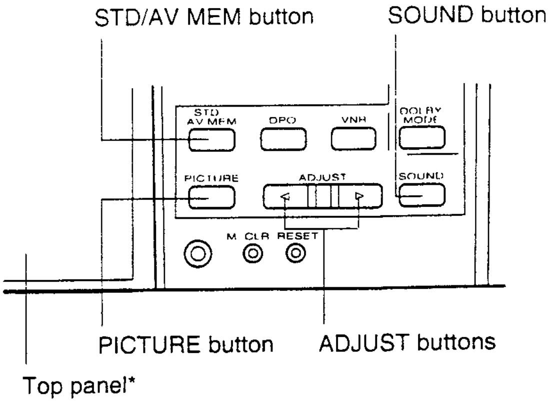
The remote control unit has a PICTURE button and a SOUND button. These buttons allow you to adjust color, tint, contrast, brightness, sharpness, bass, treble, and balance.

1. Press the PICTURE button or SOUND button until the item to be adjusted turns red.
2. Press the ADJUST ► button to raise the value of the selected item. Press the ◄ button to lower it.

Set each item to any value you like; the current value is shown on the screen.
Picture and sound adjustment mode will be cancelled approx. 4 seconds after the ADJUST ► or ◄ button is released.

NOTE:

- *The Projection Monitor has been adjusted before shipping. Please make additional adjustments to suit your personal taste.*
- *These picture and sound quality settings can be stored in the AV MEMORY preset memory. See AV MEMORY on page 41.*
- *To return to the standard settings initially set at the factory simply press the STD/AV MEM button so that the screen shows STANDARD.*
- *The COLOR, Contrast (CONTR) and Brightness (BRITE) adjustments cannot be selected while the DPO switch is on. If you wish to adjust them, turn the DPO off.*

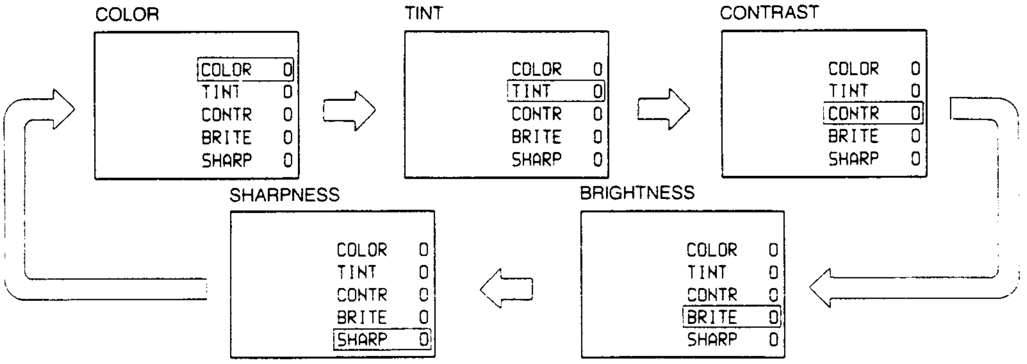

STD/AV MEM button
SOUND button
STD AV MEM
DPO
VNH
DOLBY MODE
PICTURE
ADJUST
SOUND
M
CLR
RESET
PICTURE button
ADJUST buttons
Top panel*

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

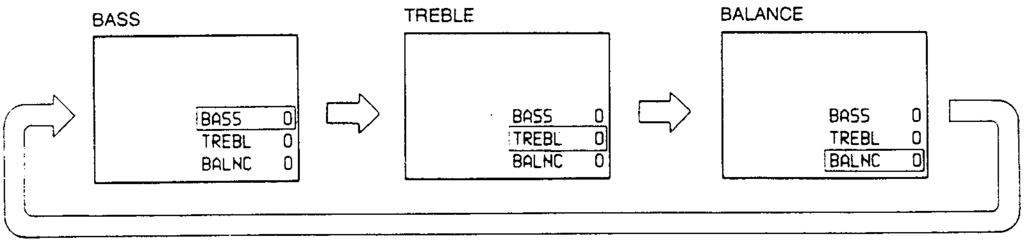
Temporary AV Memory recall

When the display disappears from the screen, the existing AV settings will be stored in the temporary memory mode. In this mode, the monitor's temporary AV memory settings will be restored when the power is turned on.

SCREEN INDICATIONS FOR PICTURE AND SOUND ADJUSTMENT (Selected item is displayed in red.)


COLOR
TINT
CONTRAST
SHARPNESS
BRIGHTNESS
COLOR 0
TINT 0
CONTR 0
BRITE 0
SHARP 0

SCREEN INDICATIONS FOR SOUND ADJUSTMENT (EXCEPT DOLBY PRO LOGIC SURROUND OR DOLBY 3CH LOGIC)


BASS
TREBLE
BALANCE
BASS 0
TREBL 0
BALNC 0

NOTE:

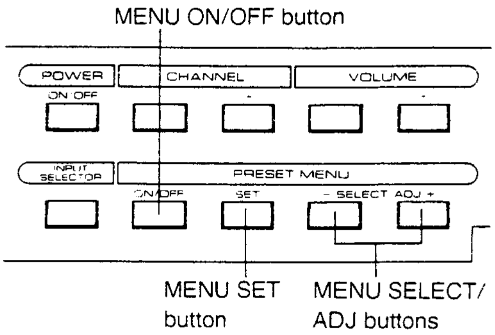
- *If the color seems abnormal but cannot be fixed by color or tint adjustment, you may need to align the color convergence (see page 30).*
- *Bass and treble tone control adjustment range will be shown as a value between -32 and +31, and balance adjustment range will be shown as a value between L32 and R31.*
- *During the DPO adjustment and AV memory operation, 'DPO', 'STD', 'AV1' or 'AV2' will be shown on the left side of the screen. When the tone control or picture quality control are adjusted, these displays will disappear from the screen except for the 'DPO' display.*

AV MEMORY

After making adjustments, you can store your picture and tone quality settings in the two AV MEMORY presets. Follow the procedure below.

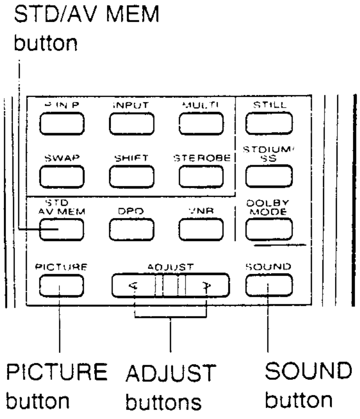
Storing a Setting

1. Watch a TV show, video tape, or video disc.
2. Adjust the picture and tone using the PICTURE button, SOUND button and ADJUST buttons.
3. Press the MENU ON/OFF button to display the MENU, and press the MENU SELECT/ADJ buttons until the AV MEMORY display turns red.
4. Press the MENU SET button.
5. Press the MENU SELECT/ADJ button to select the AV memory (AV MEMORY 1 or AV MEMORY 2) in which the setting is to be stored. The unlocked display (🔓) will appear on the screen next to the selected AV MEMORY
6. Press the MENU SET button to store the settings in AV memory. Upon completion of memory storage, the locked display (🔒) appears on the screen.
7. Press the MENU ON/OFF button to return to normal operation.


MENU ON/OFF button
POWER
ON OFF
CHANNEL
VOLUME
INPUT SELECTOR
PRESET MENU
ON/OFF
SET
– SELECT ADJ +
MENU SET button
MENU SELECT/ ADJ buttons

Recalling a Setting

Press the STD/AV MEM button on the remote control unit. Each press of the STD/AV MEM button moves the selection from STANDARD to AV MEMORY 1, to AV MEMORY 2, display off and then back to STANDARD again.
(Press the button while the previous legend is still on the screen, otherwise, it will return to the STANDARD setting.)

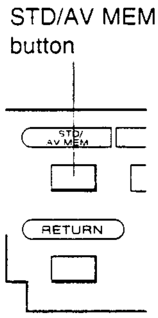

STD/AV MEM button
P IN P
INPUT
MULTI
STILL
SWAP
SHIFT
STEROBE
STADIUM/SS
STD AV MEM
DPD
VNR
DOLBY MODE
PICTURE
ADJUST
SOUND
PICTURE button
ADJUST buttons
SOUND button

Returning to the Standard Setting

Press the STD/AV MEM button so that the screen shows STANDARD.

Recalling a setting with the STD/AV MEM button on the control panel

Press the STD/AV MEM button repeatedly to recall a setting, as described above for the remote control operation buttons.


STD/AV MEM button
STD/ AV MEM
RETURN

NOTE:

- *Adjustments mode to the AV memory, bass and treble tone, etc., will only affect the output from the SYSTEM AUDIO OUT jacks.*
- *All signals output from the Projection monitor will be unaffected.*
  Only the original output signal is sent through the monitor output jacks.

AV Memory assignment

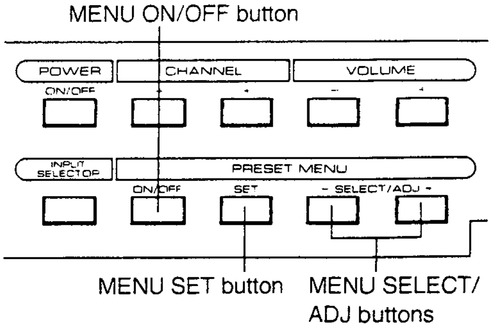
AV memory can be assigned to a selected input source: TV, LD or VIDEO. For example, the AV memory settings for TV can be stored in the STANDARD mode, LD settings in AV MEMORY 1 and VIDEO settings in AV MEMORY 2.
Press the input selector button repeatedly to select the desired input source, then press the STD/AV MEM button repeatedly to recall the desired settings.

Only the STD/AV MEM button on the remote control unit cannot be used while the DOLBY PRO LOGIC SURROUND menu or DOLBY 3CH LOGIC menu appear on the screen.

* Before operation, open the top panel. After all operations are completed, make sure that the top panel is securely closed.

DPO ADJUSTMENT

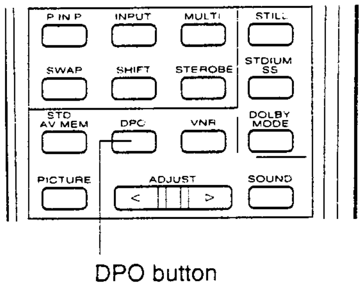
When the DPO (Dynamic Picture Optimizer) switch is on, the monitor automatically adjusts the contrast, brightness and color to match room lighting conditions. This is done according to factory preset specifications which ordinarily do not need to be changed. However, if the DPO is giving you too bright or too dim a picture, you can change its response by following these directions.



DPO adjustment is necessary under the following conditions.

Room conditions	Monitor screen condition	Adjustment
Dim light	Too much brighter than room lighting	DPO DARK Adjustment
Bright light	Dark monitor screen (Picture cannot be seen clearly)	DPO LIGHT Adjustment

1. Under dim or bright room lighting conditions, watch a TV show, video tape, or video disc.
2. Press the MENU ON/OFF button to display the MENU, and press the MENU SELECT/ADJ buttons until the DPO BASE display turns red.
3. Press the MENU SET button. "DPO LIGHT" and "DPO DARK" appear on the screen.
4. Press the MENU SELECT/ADJ buttons to select the adjustment as follows:
   Bright room → select DPO LIGHT
   Dim room → select DPO DARK
5. Press the MENU SET button. "COLOR", "CONTR (Contrast)" and "BRITE (Bright)" appear on the screen.
6. Press the MENU SET button to select the adjustment items; "COLOR", "CONTR" or "BRITE".
   Press the MENU SELECT/ADJ buttons to adjust the selected item.
7. Repeat step 6 to adjust the other two adjustment items.
8. Press the MENU ON/OFF button after all adjustments are completed.



DPO system and AV MEMORY system

When the DPO system is turned off, the monitor picture will be set according to its original picture data (reference AV MEMORY data, memorized AV MEMORY 1 data or AV MEMORY 2 data).

When the DPO system is turned on, the monitor picture will be set according to a combination of the original AV MEMORY data (reference AV MEMORY data, AV MEMORY 1 or AV MEMORY 2 data) and the DPO adjustment data.

Attention

The following picture adjustments should not be performed when the DPO system is engaged.

They are automatically adjusted to the proper level by the DPO microcomputer according to lighting conditions when the system is turned on.

If you wish to adjust these items, turn the DPO system off before making adjustments.

- COLOR
- CONTRAST (CONTR)
- BRIGHTNESS (BRITE)

HOW TO TURN THE SYSTEM MODE FUNCTION ON AND OFF

On the system mode function

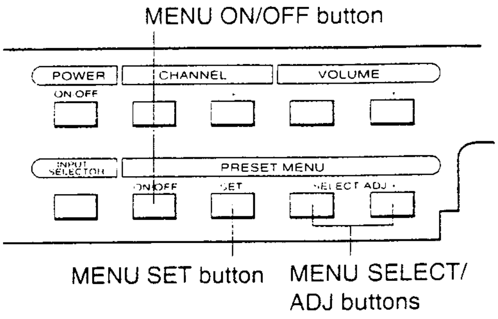
The system mode function is used to internally separate the TV tuner section from the Monitor section of the Projection Monitor. This allows the TV signal to be sent through an AV amplifier before being displayed on screen.

The system mode function can be used to connect all your audio and video components, including the Projection Monitor, to your AV amplifier, and control the operations of all of them with the AV amplifier's remote control unit.

Attention:

- The input selector is automatically set to LD or TV mode when the system mode is engaged.
  When the system mode is on, the input selector of the Projection Monitor will not change when the input select button is pressed.
- When using system mode, be sure to turn this function off. The input selector will resume normal operation when system mode is turned off. Follow the instructions below to turn the system mode function on and off.
- If the built-in speakers of the Projection Monitor are being used as the center channel speaker for the surround sound system, the Projection Monitor volume must be set to its maximum position (63).
- When resetting the Projection Monitor after system mode is turned off, set the volume control to its minimum position first.

1. Turn on the Projection Monitor.
2. Press the MENU ON/OFF button, and press the MENU SELECT/ADJ buttons until the SYSTEM MODE display turns red.
3. Press the MENU SET button to turn the SYSTEM MODE on.
   To turn the system mode off, press the MENU SET button again. SYSTEM OFF appears on the screen for 4 seconds.
4. Press the MENU ON/OFF button to return to normal operation.


MENU ON/OFF button
POWER
ON OFF
CHANNEL
VOLUME
INPUT SELECTOR
PRESET MENU
ON OFF
SET
SELECT ADJ
MENU SET button
MENU SELECT/
ADJ buttons

CONVERGENCE
AV MEMORY
DPO BASE
INPUT LABEL
TV-CATV MODE
TUNER PRESET
SYSTEM MODE

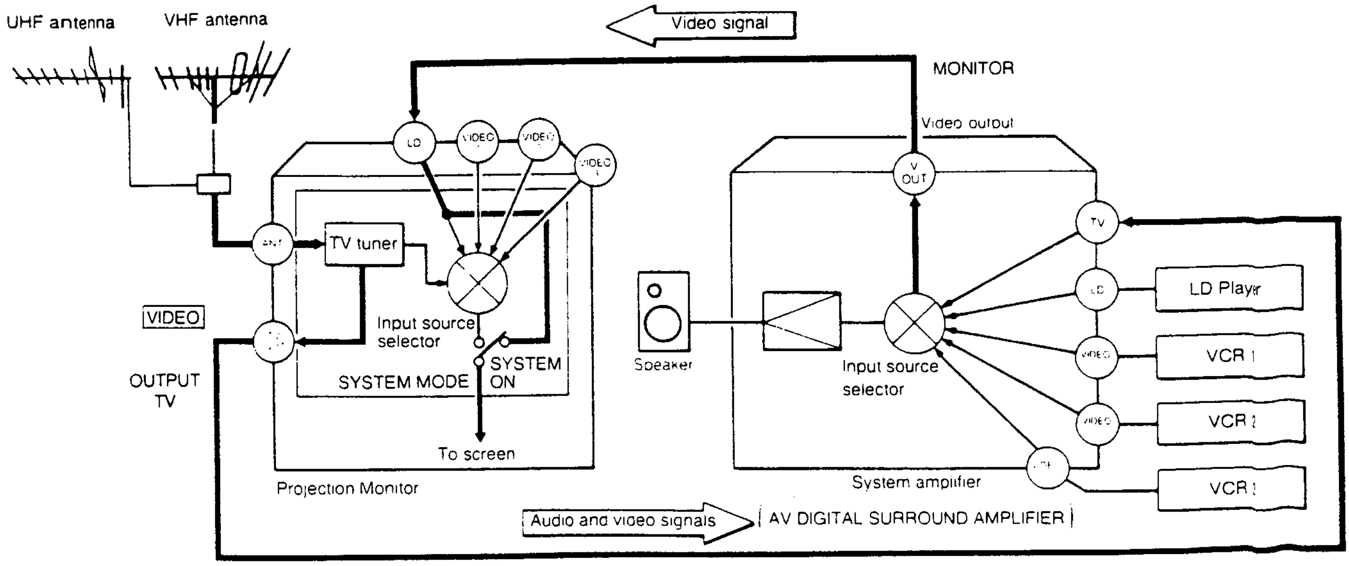
Notes on system mode

When system mode is engaged, the only pictures that can be displayed by 1 Sub-Picture mode are television broadcast pictures. When system mode is selected, the menu display appears on the screen. To make the menu display disappear, press the MENU ON/OFF button.

NOTE:

- *Check the power of the Projection Monitor before and after using it. Be sure you turn the power of the Projection Monitor on and off with the remote control unit of the Projection Monitor.*
- *Perform all volume adjustment with the connected AV amplifier's VOLUME control.*

SIGNAL FLOW DIAGRAM


UHF antenna
VHF antenna
Video signal
MONITOR
Video output
LD
VIDEO
VIDEO
VIDEO
ANT
TV tuner
VIDEO
OUTPUT
TV
Input source
selector
SYSTEM
SYSTEM MODE
ON
To screen
Projection Monitor
V OUT
Speaker
Input source
selector
TV
LD
VIDEO
VIDEO
LD Player
VCR 1
VCR 2
VCR 3
System amplifier
Audio and video signals
AV DIGITAL SURROUND AMPLIFIER

Use commercially available VIDEO/AUDIO cords for connections

TROUBLESHOOTING

Please check the following chart and try the suggested solutions before consulting a PIONEER authorized service center. Often you can fix the problem by making a simple adjustment on the Projection Monitor. Faulty connections may be to blame, or it may be another piece of equipment that is causing the trouble.

SYMPTOM	POSSIBLE CAUSE AND SUGGESTED SOLUTION
NO PICTURE	AC power cord is not plugged into the wall socket. **Plug in the AC power cord.** Power switch is off. **Turn on the power switch on the Projection Monitor, or turn on the TV POWER key on the remote control unit.** Selected video signal source is not connected to input jacks, or source component (VCR, etc.) is not turned on or is not providing a signal. **Check connections and source unit operation.**
COLOR IS WASHED OUT	Color value is too low. **Use PICTURE button and ADJUST buttons to increase COLOR value.** Brightness value is too high. **Use PICTURE button and ADJUST buttons to reduce BRIGHT value.**
COLOR TINT IS WRONG	Tint value is too high or low. **Use PICTURE button and ADJUSTbuttons to adjust TINT value.**
STATIC IN TV PICTURE	Interference from motor vehicles, neon signs, etc. **Try changing the height or direction of the TV antenna. Move the antenna away from the source of interference.**
GHOSTING ON SCREEN	This "multipath" distortion is caused when the TV signal is received along two paths directly after being reflected from tall buildings, mountains or other obstacles. Strong winds may have changed the direction of the TV antenna. **Try changing the height or direction of the antenna. An antenna with better directional characteristics may be required.**
COLORED STRIPES ON SCREEN	Interference from other radio or TV signals. **Try changing the height or direction of the antenna. Try changing to a coaxial antenna cable. Coaxial cable is shielded to minimize pickup of interfering signals.**
COLORED EDGES ON IMAGES	Color convergence needs adjustment. **Tune in a channel, select CONVERGENCE from among the menu items and adjust using the convergence controls on the remote control unit (see page 30 for details).**
UNCLEAR PICTURE	Connections are loose or cables are damaged. **Check connections and try using new cables.** Antenna may be damaged. **Check antenna.**
POOR PICTURE OR COLOR QUALITY	Interference from a nearby speaker or other source of magnetism. **Move source of interference away from the monitor.**
NO SOUND	Rear panel FRONT or CENTER SPEAKER SELECTOR is set to EXT, but external speakers are not connected. **Set selector to INT.** Check if the left and right channel speaker are connected to the Projection Monitor, if the rear speaker does not produce any sound. **Make sure to connect the two rear speakers.**
NO ON-SCREEN CHANNEL OR OTHER DISPLAY; SLEEP TIMER DOES NOT OPERATE	Strong light striking the remote control sensor may cause the internal microcomputer to malfunction. **Change the position of the Projection Monitor or change the lighting so that the sensor is not exposed to strong light sources.**

- *Abnormal functioning of this monitor may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.*
- *With some VCRs, when the VCR is not in play mode, the screen sometimes fluctuates. This is not a malfunction.*

CARE OF YOUR PROJECTION MONITOR

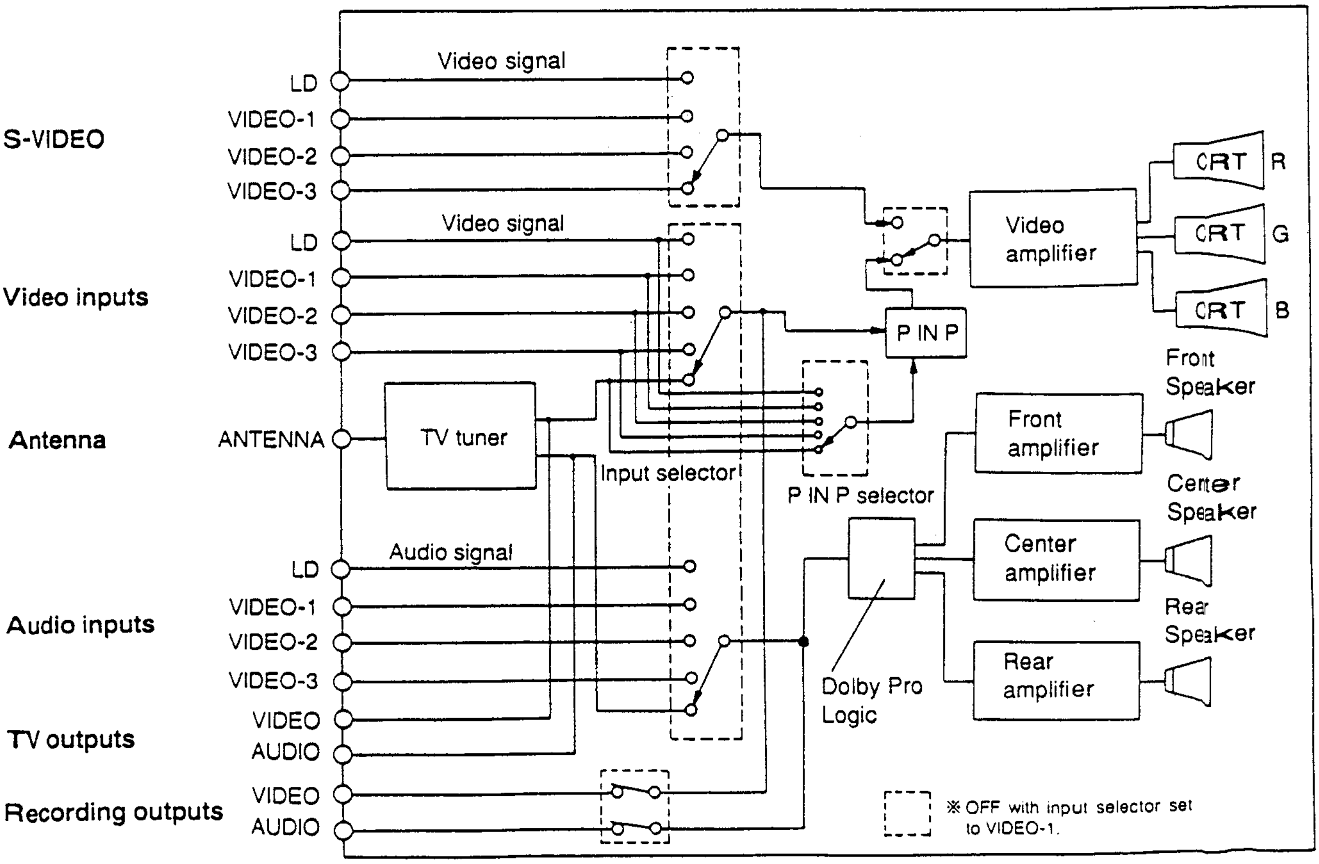
DO NOT:

- Do not use strong cleansers, solvents, polishes, or chemically treated cloths to clean the screen or cabinet.
- Do not touch or scratch the screen.
- Do not fasten or place rubber or vinyl items on the monitor.
- Do not use tape on the monitor.
- Do not put any object on the monitor.

DO:

- Use a soft cloth to dust the screen and cabinet.
- If necessary, unplug the monitor and wipe with a soft cloth moistened with warm water (and mild soap if dirt has built up). Dry with a soft, dry cloth.
- Treat the screen with care to avoid scratches or damage.
- Ask your local dealer to clean the interior of the monitor if maximum picture brightness decreases. This may be caused by dust build-up inside.

BLOCK DIAGRAM


S-VIDEO
LD
VIDEO-1
VIDEO-2
VIDEO-3
Video signal
Video inputs
LD
VIDEO-1
VIDEO-2
VIDEO-3
Video signal
Antenna
ANTENNA
TV tuner
Input selector
P IN P selector
P IN P
Video amplifier
CRT R
CRT G
CRT B
Front Speaker
Front amplifier
Center Speaker
Center amplifier
Rear Speaker
Rear amplifier
Dolby Pro Logic
Audio inputs
LD
VIDEO-1
VIDEO-2
VIDEO-3
Audio signal
TV outputs
VIDEO
AUDIO
Recording outputs
VIDEO
AUDIO
※OFF with input selector set to VIDEO-1.

SPECIFICATIONS

DISPLAY SECTION

Reception system	American TV standard NTSC system
Screen size	55" (SD-P5567/SD-P5565) 50" (SD-P5067/SD-P5065) 45" (SD-P4565)
CRT	7" High focus CRT x3
Brightness (White peak)	440 (SD-P5567/SD-P5565) 550 (SD-P5067/SD-P5065) 620 (SD-P4565) Foot-Lambert [100 % Window signal input contrast, bright Max.]
Actual viewing angle	Horizontal H = 140° Vertical V= 45°
Horizontal resolution	830 lines (SD-P5567/SD-P5565/SD-P5067/SD-P5065) 770 lines (SD-P4565) [Input digital test pattern (900 lines resolution)]
Input terminals	4 video input systems, S-VIDEO input jacks (Y/C separate INPUT) x4 4 audio input systems
Output terminals	REC OUTPUT (To VIDEO-1); Video output, audio output (For recording) x1 TV OUTPUT (Ex. to Audio/Video digital surround amplifier) x1
System remote control terminals	IN/OUT
Input signal	Video signal: 1.0 Vp-p +/– 0.2 V (75 ohms load) Audio signal: 500 mV rms
Input impedance	Video input: 75 ohms +/– 10 % Audio input: 50 kohms or more
Input signal polarity	Synchronized negative
Output terminal signal ratings:	
Output terminals (except VIDEO-1)	Video signal: 1 Vp-p (75 ohms load) Audio signal: 500 mV rms (100 % modulation)
Output impedance	Video output: 75 ohms +/– 10 % Audio output: Less than 1 kohms
Audio output terminal (VARIABLE)	Audio signal: 500 mV rms (100 % modulation Volume MAX.)

TUNER SECTION

Circuit type	Video signal detection: PLL full synchronous detection PLL Digital Synthesizer system Audio multiplex: BTSC system
Reception channels	VHF; CH2~CH13, UHF; CH14~CH69 CATV (STANDARD, AIR or HRC switchable) CATV A-6 CH~CCC (W+29) CH
Antenna terminals	ANTENNA terminal, 75 ohms UNBAL, F-type connector (VHF, UHF MIXED)

AMPLIFIER SECTION

Effective output	
Front (both channels driven)	10 W+10 W
Center	10 W
Rear	5 W+5 W (THD. 1 % 50 Hz to 15,000 Hz, 8 ohms)
Tone control:	
BASS	+8 dB, –10 dB (100 Hz)
TREBLE	+8 dB, –10 dB (10 kHz)
Built-in speaker system	16 cm (6-1/2 in) full range x2
External speaker impedance (FRONT, CENTER, REAR)	8~16 ohms

ELECTRICAL SECTION, MISCELLANEOUS

Power requirements	AC 120 V, 60 Hz
Power consumption	280 W
External dimensions	
SD-P5567 (with door)	1365 (W) x 767 (D) x 1433 (H) mm 53 -3/4 (W) x 30-1/4 (D) x 56-7/16 (H) inch
SD-P5565	1259 (W) x 685 (D) x 1400 (H) mm 49 -9/16 (W) x 27 (D) x 55-1/8 (H) inch
SD-P5067 (with door)	1255 (W) x 714 (D) x 1358 (H) mm 49 -7/16 (W) x 28-1/8 (D) x 53-1/2 (H) inch
SD-P5065	1154 (W) x 655 (D) x 1314 (H) mm 45-7/16 (W) x 25-25/32 (D) x 51-3/4 (H) inch
SD-P4565	1049 (W) x588.5 (D) x 1239 (H) mm 41-5/16 (W) x 23-3/16 (D) x 48-3/4 (H) inch
Weight of main unit	
SD-P5567	150 kg (330 lb 12 oz)
SD-P5565-K	105 kg (231 lb 13 oz)
SD-P5067	140 kg (308 lb 11 oz)
SD-P5065-K	98 kg (216 lb5 oz)
SD-P4565-K	86 kg (189 lb 14 oz)

WIRELESS REMOTE CONTROL UNIT

Operation system:	Programmable infrared remote control system
Power source:	Two AM-3, "AA" IEC LR6 1.5 V alkaline dry cell batteries
Attachments:	Two batteries and an overlay sheet
Dimensions:	66 (W) x 37.5 (H) x 199 (D) mm 2-5/8 (W) x 1-1/2 (H) x 7-13/16 (D) in.
Weight:	140 g (5 oz.) (without batteries)

ACCESSORIES

Operating instructions	1
Warranty card	1
Remote control unit	1
AM-3, "AA" size (IEC LR6 1.5 V) alkaline dry cell batteries	2
Important Safeguards card	1

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

• 64 FAMILY

Note : FRONT PANEL FACILITIES and REMOTE CONTROL UNIT FACILITIES
of 64 family are the same as the 65 and 67 families.

SPECIFICATIONS

DISPLAY SECTION

Reception system.........American TV standard NTSC system
Screen size ....55" (SD-P5564)
50" (SD-P5064)
45" (SD-P4564)
CRT ....7" High focus CRT x3
Brightness (White peak) 440 (SD-P5564)
550 (SD-P5064)
620 (SD-P4564) Foot-Lambert
[100 % Window signal input contrast, bright Max.]
Actual viewing angle ....Horizontal H = 140°
Vertical V= 45°
Horizontal resolution ....830 lines (SD-P5564/SD-P5064)
770 lines (SD-P4564)
[Input digital test pattern (900 lines resolution)]
Input terminals ....4 video input systems,
S-VIDEO input jacks (Y/C separate INPUT) x4
4 audio input systems
Output terminals ....REC OUTPUT (To VIDEO-1);
Video output, audio output (For recording) x1
TV OUTPUT (Ex. to Audio/Video digital surround amplifier) x1
System remote control terminals ....IN/OUT
Input signal ....Video signal: 1.0 Vp-p +/– 0.2 V (75 ohms load)
Audio signal: 500 mV rms
Input impedance ....Video input: 75 ohms +/– 10 %
Audio input: 50 kohms or more
Input signal polarity ....Synchronized negative
Output terminal signal ratings:
Output terminals (except VIDEO-1)
........................Video signal: 1 Vp-p (75 ohms load)
Audio signal: 500 mV rms (100 % modulation)
Output impedance ....Video output: 75 ohms +/– 10 %
Audio output: Less than 1 kohms
Audio output terminal ....Audio signal: 500 mV rms
(VARIABLE) (100 % modulation Volume MAX.)

TUNER SECTION

Circuit type ....Video signal detection:
PLL full synchronous detection
PLL Digital Synthesizer system
Audio multiplex: BTSC system
Reception channels .....VHF; CH2~CH13, UHF; CH14~CH69
CATV (STANDARD, AIR or HRC switchable)
CATV A-6 CH~CCC (W+29) CH
Antenna terminals ......ANTENNA terminal, 75 ohms UNBAL,
F-type connector (VHF, UHF MIXED)

AMPLIFIER SECTION

Effective output
Front (both channels driven) ....10 W+10 W
Center ....10 W
Rear ....5 W+5 W
(THD. 1 % 50 Hz to 15,000 Hz, 8 ohms)
Tone control:
BASS ....+8 dB, –10 dB (100 Hz)
TREBLE ....+8 dB, –10 dB (10 kHz)
Built-in speaker system ....16 cm (6-1/2 in) full range x2
External speaker impedance
(FRONT, CENTER, REAR) ....8~16 ohms

ELECTRICAL SECTION, MISCELLANEOUS

Power requirements ....AC 120 V, 60 Hz
Power consumption ....280 W
External dimensions
SD-P5564 ....1259 (W) x 685 (D) x 1400 (H) mm
49-5/8(W) x 27 (D) x 55-1/8 (H) inch
SD-P5064 (Black).........1154 (W) x 655 (D) x 1314 (H) mm
45-1/2 (W) x 25-25/32 (D) x 51-3/4 (H) inch
SD-P5064 (Oak)........1145 (W) x 661 (D) x 1327.5 (H) mm
45-5/64 (W) x 26-1/32 (D) x 52-1/4 (H) inch
SD-P4564 ....1049 (W) x588.5 (D) x 1239 (H) mm
41-3/8 (W) x 23-3/16 (D) x 48-3/4 (H) inch
Weight of main unit
SD-P5564 ....105 kg (231 lb 8 oz)
SD-P5064 (Black) ....98 kg (216 lb 1 oz)
SD-P4564 ....86 kg (190 lb)

WIRELESS REMOTE CONTROL UNIT

Operation system: ......Programmable infrared remote control system
Power source: ....Two AM-3, "AA" IEC LR6 1.5 V alkaline dry cell batteries
Accessories: ....Two batteries
Dimensions: ....66 (W) x 37.5 (H) x 199 (D) mm
2-5/8 (W) x 1-1/2 (H) x 7-13/16 (D) in.
Weight: ....140 g (5 oz.) (without batteries)

ACCESSORIES

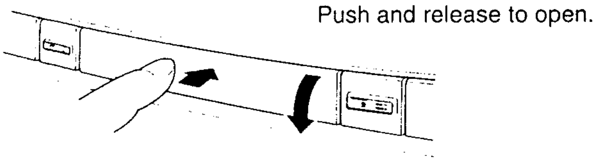
Operating instructions 1
Warranty card 1
Remote control unit 1
AM-3, "AA" size (IEC LR6 1.5 V) alkaline dry cell batteries ..2
Important Safeguards card 1

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

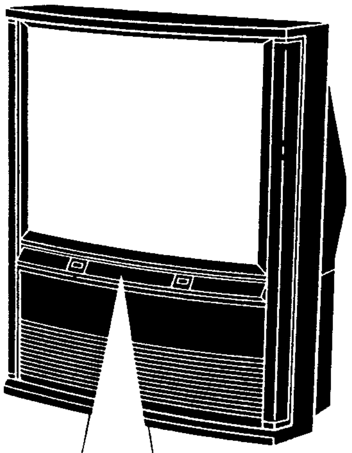
- **63 FAMILY**

FRONT PANEL FACILITIES

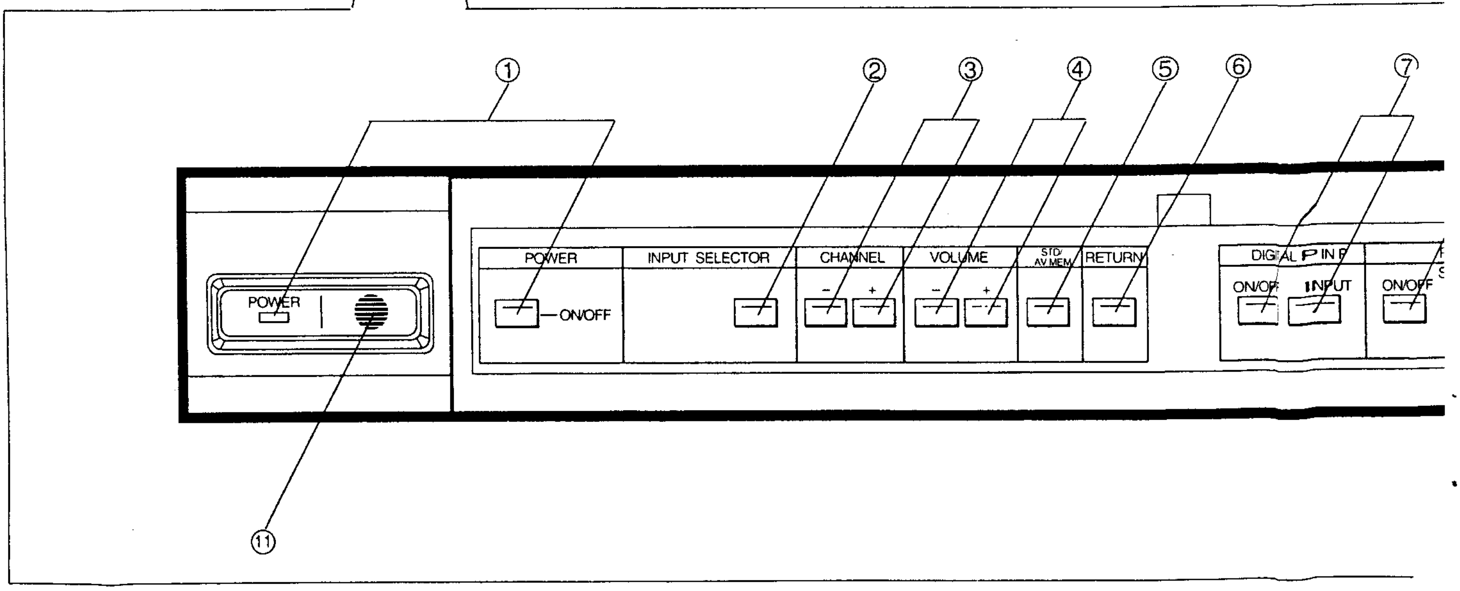
A flip-down door conceals the control panel. Push gently and release to open the door.
To close the door, lift it back up into place.



NOTE:
- *If you accidentally pull the door, it may not shut properly. Push in when shutting the door to restore it to normal operation.*



Control Panel
- Use the remote control unit to operate most functions (see pages 14 to 18).



①POWER switch and indicator
Press once to turn on the power. Press again to turn the power off. The POWER indicator lights up when the power is on.

②INPUT SELECTOR button
Press to select your program source: TV, LD player, VIDEO 1, VIDEO 2 or VIDEO 3. Each press of the button changes the selection to the next source.

③CHANNEL buttons
Press plus (+) or minus (–) to tune to a higher or lower channel. Only those channels in tuner preset can be tuned in by this method. For details, see page 26.

④VOLUME buttons
Press the plus (+) or minus (–) button to raise or lower the volume.

⑤STD/AV MEM (Standard/AV Memory) button
Press to switch between the standard (STD) picture/sound settings and the AV MEMORY 1 and AV MEMORY 2 settings which have been input with the MENU SET button.

⑥RETURN button
Press to set the Projection Monitor to its initial mode instantly if either sound or picture disappear from the speaker system or the screen during adjustment.
- Adjust the Projection Monitor again after pressing the RETURN button, as all settings have been cleared.

Attention
The Projection Monitor Receiver will not function properly in the following cases:
- Lightning storms.
- High static electricity environment.
- Poor voltage regulation in the power source.

If the Projection Monitor does not operate properly, reset it as follows.
① Unplug from the power supply for approximately 1 minute.
② Plug the power cord in again to reset it.

When the RETURN button is pressed, the Projection Monitor is set as follows:
PICTURE, CONT: Set to 25, other parameters, set to 0.
SOUND: Set to standard.
VOLUME: Remains at the last setting.
DPO/ P-in-P: Set to OFF.
INPUT SELECTOR: Set to TV.
TV CHANNEL: Remains at the last channel set.

⑦**DIGITAL P IN P (Picture-in-Picture) buttons**

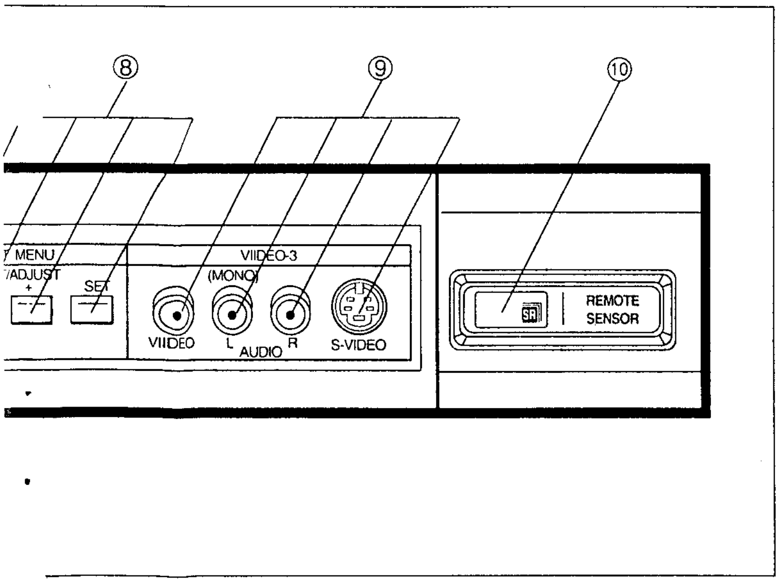
ON/OFF: Press to turn the Picture-in-Picture function on and off.

INPUT: Press to select the input source for the sub-picture while in one sub-picture mode.

- For details on the Picture-in-Picture function, see page 17.

NOTES:

- *If only the* S-VIDEO *LD and VIDEO jacks of the LD player and/or VCR are connected to the Projection Monitor, the Picture-in-Picture function will not operate when these buttons are pressed.*
- *The Picture-in-Picture will be cancelled if any other operation key or operation button is pressed; and the Projection Monitor will enter the selected operation mode.*



⑧**PRESET MENU buttons**

These buttons are used to perform the following functions: color convergence, tuner presetting, TV-CATV selection, relabeling input label, system mode setting and AV memory storage. For details, refer to the description of each function.

ON/OFF: Press to turn the Menu (functions above) on and off. When the button is pressed on, the function names CONVERGENCE, AV MEMORY, INPUT LABEL, DPO BASE, TV-CATV MODE, TUNER PRESET and SYSTEM MODE are displayed on the screen.

SELECT/ADJUST (+/–): Press to select the desired function. The selected function is displayed in red.

SET: Press to activate the selected function.

NOTE:

- *When the ON/OFF button is pressed and held for more than 2 seconds, the linear white system will be turned off and "LINEAR WHITE OFF" will appear on the screen. The linear white system will resume operation approx. 4 seconds after the ON/OFF button is released.*

NOTE:

- *Refer to page 35, if you wish to use the SYSTEM MODE function.*

⑨**INPUT jacks (VIDEO-3)**

These front panel jacks are convenient for connecting a portable VCR, a video camera recorder or other temporary video source to the monitor. When the audio signal of the source to be connected is monaural, connect the L (MONO) jack.

Use the S-VIDEO jack when connecting an S-VHS or ED Beta VCR, or an LD player which has an S-output jack.

⑩**REMOTE sensor**

This sensor picks up infrared signals from the remote control unit.

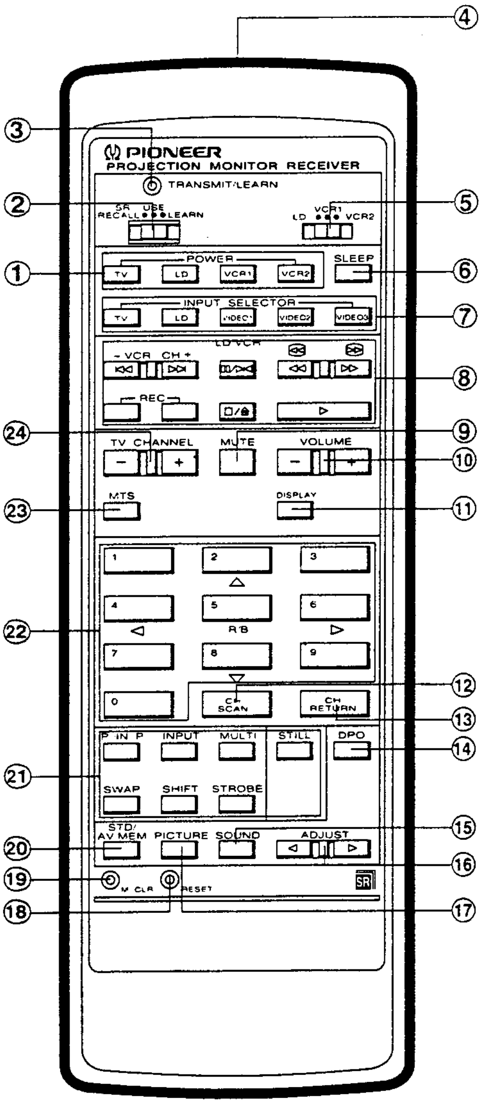
⑪**DPO sensor**

This sensor detects ambient lighting for the DPO (Dynamic Picture Optimizer) circuit which optimizes the TV picture accordingly.

NOTE:

- *On rare occasions, an electrical discharge may occur inside the CRT. It makes a short, sharp pop and either no sound is produced or the volume level changes by itself. The Picture-in-Picture function will be cancelled automatically if an electrical discharge occurs when this function is engaged. However, DPO resume automatically when an electrical discharge occurs.*

REMOTE CONTROL UNIT FACILITIES


④
③
PIONEER
PROJECTION MONITOR RECEIVER
TRANSMIT/LEARN
②
SR RECALL
USE
LEARN
LD
VCR1
VCR2
⑤
POWER
TV
LD
VCR1
VCR2
SLEEP
①
⑥
INPUT SELECTOR
TV
LD
VIDEO1
VIDEO2
VIDEO3
⑦
LD/VCR
- VCR CH +
REC
⑧
㉔
⑨
TV CHANNEL
MUTE
VOLUME
⑩
MTS
DISPLAY
㉓
⑪
1
2
3
4
5
6
R/B
7
8
9
0
CH SCAN
CH RETURN
㉒
⑫
⑬
P IN P
INPUT
MULTI
STILL
DPO
⑭
SWAP
SHIFT
STROBE
㉑
STD/ AV MEM
PICTURE
SOUND
ADJUST
⑮
⑳
⑯
⑲
M CLR
RESET
SR
⑱
⑰

① POWER (TV/LD/VCR1/VCR2)
Turns the power of the monitor on and off. Also turns the power of LD Players and VCRs bearing the SR mark on and off.

- Store the POWER control command code from other remote control units to the VCR2 button. For details, see pages 19 and 20.

② LEARN MODE Switch

SR RECALL: Use this setting to command PIONEER equipment marked with the SR mark (No memory function).

USE: In this mode the remote control unit is able to command other components with commands you input using the LEARN function, as well as PIONEER SR equipment.

LEARN: This setting activates the capability of the unit to "learn" and store command codes from other remote control units.

③ TRANSMIT/LEARN Indicator
Flashes when commands are being sent in the USE or SR RECALL modes of the LEARN MODE selector. In the LEARN mode, however, it:

- lights when ready to accept programming information, and
- flashes to signal that you have chosen an incorrect button to store a programmed command, or when the memory is full.

④ Transmitting and Remote Control Code Receiver Window
Transmits remote control signals using infrared rays. When memorizing a remote control code, the window will function as an infrared receiver.

⑤ TRANSMIT MODE Switch
Set to the position that corresponds to the component you wish to operate.

LD: To control the LD Player.
VCR1: To send commands to VCR 1.
VCR2: To send commands to VCR 2.

- If you wish to use LD/VCR control buttons for VCR2 remote control, store command codes from other remote control units to the LD/VCR control buttons. For details, see pages 19 and 20.

⑥ SLEEP button
Press to set the sleep timer.
The switching sequence is 90, 60, 30 (in minutes) and OFF (cancel). The screen will confirm your setting and the projection monitor will shut down when that amount of time has elapsed.
The POWER OFF display will appear on the screen approximately 1 minute before power turns off. The POWER OFF display will flash alternately red until the power is turned off.

→ SLEEP OFF → SLEEP 90 → SLEEP 60 ─┐
└──────── SLEEP 30 ←────────┘

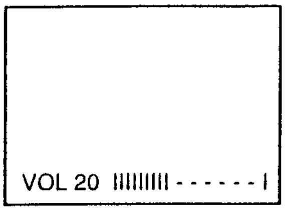
Each time the SLEEP button is pressed, the sleep time decreases in intervals of 30 minutes OFF → 90 → 60 → 30.
When the SLEEP button is held down, the sleep time decreases in one minute intervals. For example, to set sleep time to 40 minutes: Press the SLEEP button twice ('90' is displayed).
Press the SLEEP button again and hold it ('60' is displayed briefly, then the display decreases in 1 minute intervals 59, 58, 57, ... etc.).
Release the SLEEP button when the display reads '40'.

NOTE:
To cancel the sleep time which has been set, turn off the power once to reset the timer.

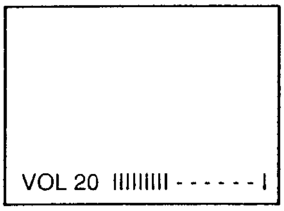
⑦ INPUT SELECTOR buttons (TV/LD/VIDEO 1/VIDEO 2/ VIDEO 3)
Press the button to select the source you wish to watch. The screen will display your selection.

⑧ LD/VCR Control buttons
If your LD player or VCR (Video Cassette Recorder) is a PIONEER model bearing the SR mark, you can control the component using there buttons. For details, see page 2.

⑨ MUTE button
Press to temporarily turn off the sound. Press again to return to the previous volume level. This is useful, for example, when answering the telephone.
The volume display will turn red while the mute function is engaged. If the mute function is left on for over approx. 10 minutes, the function will be cancelled automatically, and the volume level will be reset to 0. The volume display will disappear from the screen when the mute function is cancelled.



⑩ VOLUME +, – buttons
Press the + button to increase the volume, and the – button to decrease it. Volume adjustment will appear on the screen as numbers and a bar graph. '63' indicates the maximum volume level.
The display will disappear from the screen after 4 seconds.
* Volume display will change color automatically according to the selected input mode.



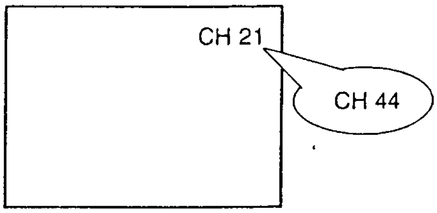
⑪ DISPLAY button
Press once to display the current channel and/or other information on the screen.

⑫CH SCAN (Channel scan) button
Press to display 4 (or 9) memorized TV stations on the split screen at the same time. After pressing the CH SCAN button, use the MULTI button to select 4-station display mode or 9-station display mode.

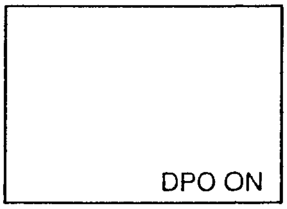
Channel Scan Features
When 4-screen or 9-screen mode is selected, use this feature to select one of the television stations currently displayed for full-screen viewing.

Press the direct channel selection buttons that correspond to the channel that you wish to watch.
NOTE:
Non broadcasting station channel or no transmission service. In cases where the transmission from the broadcasting station has stopped or you have selected a channel without broadcasting station, either a noise screen or the transmission of the last station received will appear on the screen, when channel scan feature is engaged.

⑬ CH RETURN (Channel return) button
Press to switch between the current channel and the channel you were watching immediately before. This is useful, for example, if you wish to switch back and forth between two sporting events.



⑭ DPO (Dynamic Picture Optimizer) button
You can turn DPO on or off as desired. When DPO is on, it automatically adjusts the picture to compensate for room illumination. For details, see page 34.



⑮ SOUND button
Press to select the sound parameter to be adjusted.

→ BASS → TREBLE → BALANCE ┐

⑯ ADJUST button
Press the ► button to increase the value of the item currently selected using the PICTURE button or SOUND button, and the ◄ button to decrease it.

⑰PICTURE button
Press to select the picture parameter to be adjusted.

→ COLOR → TINT → CONTR ┐
└— SHARP ← BRITE ←——┘

⑱RESET button
Press to reset the microcomputer in the remote control unit to its initial mode in the following cases:
- When replacing the batteries.
- If the remote control unit will not function properly when an operation button is pressed, etc.

NOTE:
On rare occasions, an electrical discharge may occur inside the unit, causing some command malfunction. If this happens pressing RESET should correct the problem. The possibility exists, however, that instead of correcting the problem, pressing RESET may erase the programmed memory.

⑲M. CLR button
Erases all commands programmed through the LEARN function; press lightly with the tip of a ballpoint pen or other fine-tipped instrument during learn mode to activate this function. For details, see page 21.

REMOTE CONTROL UNIT FACILITIES

⑳ STD/AV MEM (Standard/AV Memory) button

Press to switch between the standard (STD) picture/sound quality settings and your AV MEMORY 1 and AV MEMORY 2 settings.

This button only recalls settings stored in AV MEMORY. To put the current picture/sound settings into AV MEMORY, use the control panel's PRESET MENU buttons. For details, see pages 32 and 33.

㉑ Picture-in-Picture Control buttons

Any program source connected to the Projection Monitor can be displayed on the screen simultaneously with any other source. Also, the multiscreen mode (4 sub screen or 9 sub screen) can be selected.

P IN P:	Press to turn the Picture-in-Picture function on and off.
INPUT:	Press to select the input source for the sub-picture while in one sub-picture mode.
MULTI:	Press to select the number of sub-pictures which appear on the screen (1,4 or 9).
SWAP:	When only one sub-picture is displayed, press to exchange the position of the main picture and sub-picture.
SHIFT:	Press to move the sub-picture to a different place on the screen.
STROBE:	Press to select the strobe feature. Be sure to select the multiscreen mode (4 sub-screen or 9 sub-screen) using the MULTI button.
STILL:	Press to select still screen or normal mode.

㉒ Direct Channel Selection/Color Convergence buttons

Press the button (or buttons) that correspond to the channel that you wish to watch, to switch directly to that channel from any other channel.

The [2], [4], [5], [6] and [8] buttons are also used for color convergence operation. For details, see page 23.

㉓ MTS (Multichannel TV Sound) button

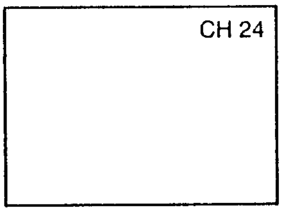
Press to select the reception mode for multichannel TV.

The switching sequence is as followes:

→ MAIN → SAP → MAIN/SAP → MONO ⏎

㉔ CH (Channel) +, – buttons

Press the + or – button to scan up or down among the channels in tuner preset.



Caution

Do not press any operation button on the Projection Monitor or on the remote control unit while recording is in progress. Signals from the REC jacks may be interrupted shortly, when an operation button is pressed.

SPECIFICATIONS

DISPLAY SECTION

Reception system ....American TV standard NTSC system
Screen size ....40"
CRT ....7" High focus CRT x3
Brightness (White peak) ....750 Foot-Lambert
[100 % Window signal input contrast, bright Max.]
Actual viewing angle ....Horizontal H = 140°
Vertical V= 45°
Horizontal resolution ....740 lines
Input terminals ....4 video input systems,
S-VIDEO input jacks (Y/C separate INPUT) x4
4 audio input systems
Output terminals ....REC OUTPUT (To VIDEO-1);
Video output, audio output (For recording) x1
TV OUTPUT (Ex. to Audio/Video digital
surround amplifier) x1
System remote control terminals ....IN/OUT
Input signal ....Video signal: 1.0 Vp-p +/– 0.2 V
(75 ohms load)
Audio signal: 500 mV rms
Input impedance ....Video input: 75 ohms +/– 10 %
Audio input: 50 kohms or more
Input signal polarity ....Synchronized negative
Output terminal signal ratings:
Output terminals (except VIDEO-1)
......................................Video signal: 1 Vp-p (75 ohms load)
Audio signal: 500 mV rms (100 % modulation)
Output impedance ....Video output: 75 ohms +/– 10 %
Audio output: Less than 1 kohms
Audio output terminal ....Audio signal: 500 mV rms
(VARIABLE) (100 % modulation Volume MAX.)

TUNER SECTION

Circuit type ....Video signal detection:
PLL full synchronous detection
PLL Digital Synthesizer system
Audio multiplex: BTSC system
Reception channels .....VHF; CH2~CH13, UHF; CH14~CH69
CATV (STANDARD, AIR or HRC switchable)
CATV A-6 CH~CCC (W+29) CH
Antenna terminals ......ANTENNA terminal, 75 ohms UNBAL,
F-type connector (VHF, UHF MIXED)

AMPLIFIER SECTION

Effective output (both channels driven)
.........10 W+10 W (THD. 1 % 50 Hz to 15,000 Hz, 8 ohms)
Tone control:
BASS ....+8 dB, –10 dB (100 Hz)
TREBLE ....+8 dB, –10 dB (10 kHz)
Built-in speaker system ....16 cm (6-1/2 in) full range x2
External speaker impedance ....8~16 ohms

ELECTRICAL SECTION, MISCELLANEOUS

Power requirements ....AC 120 V, 60 Hz
Power consumption ....240 W
External dimensions
....1031 (W) x615 (D) x 1188 (H) mm
40-19/32 (W) x 24-7/32 (D) x 46-25/32 (H) inch
Weight of main unit.................................69.0 kg (152 lb 5 oz)

WIRELESS REMOTE CONTROL UNIT

Operation system: ......Programmable infrared remote control
system
Power source: ....Two AM-3, "AA" IEC LR6 1.5 V alkaline
dry cell batteries
Accessories: ....Two batteries and an overlay sheet
Dimensions: ....72.5 (W) x 20 (H) x 214 (D) mm
2-7/8 (W) x 13/16 (H) x 8-7/16 (D) in.
Weight: ....135 g (4.7 oz.) (without batteries)

ACCESSORIES

Operating instructions 1
Warranty card...1
Remote control unit 1
AM-3, "AA" size (IEC LR6 1.5 V) alkaline dry cell batteries ..2
Important Safeguards card..1

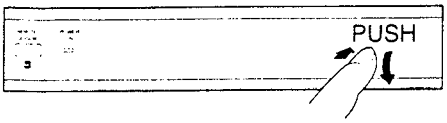
NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

• 62 FAMILY AND 61 FAMILY OF 45"

FRONT PANEL FACILITIES

A flip-down door conceals the control panel. Push gently and release to open the door.
To close the door, lift it back up into place.

Press "PUSH" mark on door of front panel to release it open.

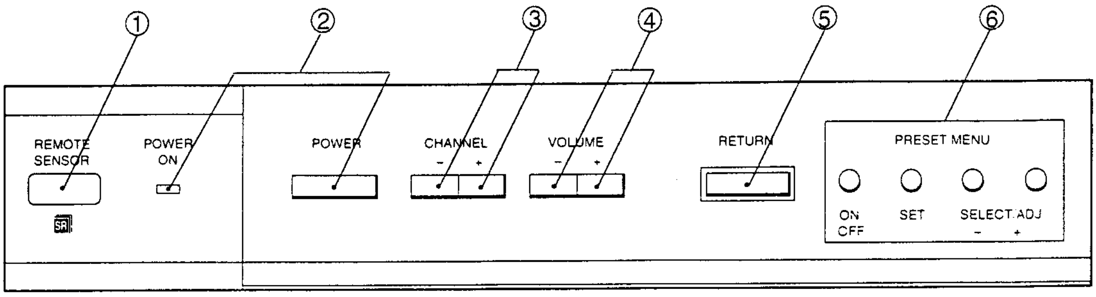


NOTE:
- *If you accidentally pull the door, it may not shut properly. Push in when shutting the door to restore it to normal operation.*
- *Reattach the door should it come off during opening or closing.*

Attention

The Projection Monitor Receiver will not function properly in the following cases:
- Lightning storms.
- High static electricity environment.
- Poor voltage regulation in the power source.

If the Projection Monitor does not operate properly, reset it as follows.
① Unplug from the power supply for approximately 1 minute.
② Plug the power cord in again to reset it.



① REMOTE SENSOR
This sensor picks up infrared signals from the remote control unit.

② POWER switch and POWER ON indicator
Press once to turn on the power. Press again to turn the power off. The POWER ON indicator lights up when the power is on.

③ CHANNEL buttons
Press plus (+) or minus (–) to tune to a higher or lower channel. Only those channels in tuner preset can be tuned in by this method. For details, see page 18.

④ VOLUME buttons
Press the plus (+) or minus (–) button to raise or lower the volume.

⑤ RETURN button
Press to set the Projection Monitor to its initial mode instantly if either sound or picture disappear from the speaker system or the screen during adjustment.
- Adjust the Projection Monitor again after pressing the RETURN button, as all settings have been cleared.

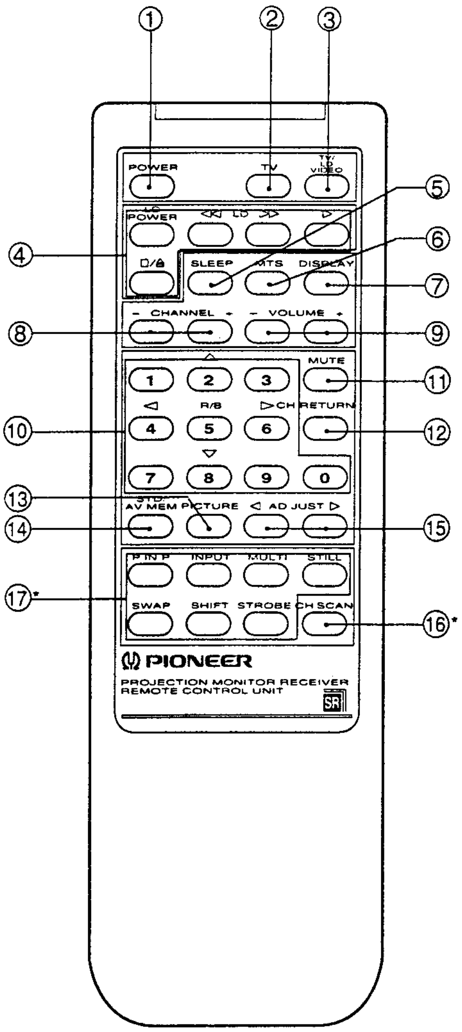
When the RETURN button is pressed, the Projection Monitor is set as follows:
PICTURE, CONT: Set to 25, other parameters, set to 0.

VOLUME: Remains at the last setting.
P-in-P (SD-P5062/SD-P4562): Set to OFF.
INPUT SELECTOR: Set to TV.
TV CHANNEL: Remains at the last channel set.

⑥ PRESET MENU buttons
These buttons are used to perform the following functions: color convergence, tuner presetting, TV-CATV selection, and AV memory storage. For details, refer to the description of each function.
ON/OFF: Press to turn the Menu (functions above) on and off. When the button is pressed on, the function names CONVERGENCE, AV MEMORY, INPUT LABEL, TV-CATV MODE, and TUNER PRESET are displayed on the sceen.
SELECT/ADJ (+/–): Press to select the desired function. The selected function is displayed in red.
SET: Press to activate the selected function.
NOTE:
- *When the ON/OFF button is pressed and held for more than 2 seconds, the linear white system will be turned off and "LINEAR WHITE OFF" will appear on the screen. The linear white system will resume operation approx. 4 seconds after the ON/OFF button is released.*

NOTE:
- *On rare occasions, an electrical discharge may occur inside the CRT. It makes a short, sharp pop and either no sound is produced or the volume level changes by itself. The Picture-in-Picture function (SD-P5062/SD-P4562) will be cancelled automatically if an electrical discharge occurs when this function is engaged.*

REMOTE CONTROL UNIT FACILITIES


①
②
③
POWER
TV
TV/LD/VIDEO
⑤
LD POWER
◁◁ LD ▷▷
▷
④
⑥
□/⏏
SLEEP
MTS
DISPLAY
⑦
⑧
– CHANNEL +
– VOLUME +
⑨
MUTE
1
2
3
⑪
◁
R/B
▷CH
RETURN
⑩
4
5
6
⑫
▽
7
8
9
0
⑬
STD.
AV MEM
PICTURE
◁ AD JUST ▷
⑭
⑮
P IN P
INPUT
MULTI
STILL
⑰*
SWAP
SHIFT
STROBE
CH SCAN
⑯*
PIONEER
PROJECTION MONITOR RECEIVER
REMOTE CONTROL UNIT
SR

* Operation buttons ⑯and ⑰are not provided on the remote control unit for the SD-P4561 model.

① POWER button
Turns the power of the monitor on and off.

② TV button
Press this button once to switch instantly to TV reception, regardless of what other video source may be selected.

③ TV/LD/VIDEO buttons
Press the button to select the source you wish to watch. The screen will display your selection.

④ LD Control buttons
If your LD Player is a PIONEER model bearing the SR mark, you can control the component using these buttons.

LD POWER button:
Switches LD player power ON/OFF. This only applies to LD player which you can switch ON/OFF by remote control operation.

◀◀ button:
Selects fast backward.

▶▶ button:
Selects fast forward.

▶ button:
Selects playback.

■ ⏏ button:
Playback is stopped when pressed once. Pressing again causes the disc table to come out.

⑤ SLEEP button
Press to set the sleep timer.
The switching sequence is 90, 60, 30 (in minutes) and OFF (cancel). The screen will confirm your setting and the projection monitor will shut down when that amount of time has elapsed.
The POWER OFF display will appear on the screen approximately 1 minute before power turns off. The POWER OFF display will flash red until the power is turned off.

→ SLEEP OFF → SLEEP 90 → SLEEP 60
SLEEP 30 ←

Each time the SLEEP button is pressed, the sleep time decreases in intervals of 30 minutes (OFF → 90 → 60 → 30). When the SLEEP button is held down, the sleep time decreases in one minute intervals. For example, to set sleep time to 40 minutes: Press the SLEEP button twice ('90' is displayed).
Press the SLEEP button again and hold it ('60' is displayed briefly, then the display decreases in 1 minute intervals: 59, 58, 57, ... etc.).
Release the SLEEP button when the display reads '40'.

NOTE:
To cancel the sleep time which has been set, turn off the power once to reset the timer.

⑥ MTS (Multichannel TV Sound) button
Press to select the reception mode for multichannel TV.

→ MAIN → SAP → MAIN/SAP → MONO

REMOTE CONTROL UNIT FACILITIES

⑦ DISPLAY button
Press once to display the current channel and/or other information on the screen.

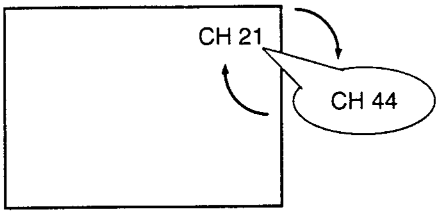
⑧ CHANNEL +, – buttons
Press the + or – button to scan up or down among the channels in tuner preset.

⑨ VOLUME +, – buttons
Press the + button to increase the volume, and the – button to decrease it. Volume adjustment will appear on the screen as numbers and a bar graph. '63' indicates the maximum volume level.
The display will disappear from the screen after 4 seconds.

⑩ Direct Channel Selection/Color Convergence buttons
Press the button (or buttons) that correspond to the channel that you wish to watch, to switch directly to that channel from any other channel.
The ②, ④, ⑤, ⑥ and ⑧ buttons are also used for color convergence operation. For details, see page 15.

⑪ MUTE button
Press to temporarily turn off the sound. Press again to return to the previous volume level. This is useful, for example, when answering the telephone.
The volume display will turn red while the mute function is engaged. If the mute function is left on for over approx. 10 minutes, the function will be cancelled automatically, and the volume level will be reset to 0. The volume display will disappear from the screen when the mute function is cancelled.

⑫ CH RETURN (Channel return) button
Press to switch between the current channel and the channel you were watching immediately before. This is useful, for example, if you wish to switch back and forth between two sporting events.



⑬ PICTURE button
Press to select the picture parameter to be adjusted.

⑭ STD/AV MEM (Standard/AV Memory) button
Press to switch between the STANDARD picture quality settings and your AV MEMORY 1 and AV MEMORY 2 setting.
This button only recalls settings stored in AV MEMORY. To put the current picture/sound settings into AV MEMORY, use the control panel's PRESET MENU buttons. For details, see pages 24 and 25.

⑮ ADJUST button
Press the ► button to increase the value of the item currently selected using the PICTURE button, and the ◄ button to decrease it.

⑯ CH SCAN (Channel scan) button (SD-P5062/SD-P4562)
Press to display 4 (or 9) memorized TV stations on the split screen at the same time. After pressing the CH SCAN button, use the MULTI button to select 4-station display mode or 9-station display mode.

Channel Scan Features
When 4-screen or 9-screen mode is selected, use this feature to select one of the television stations currently displayed for full-screen viewing.

Press the direct channel selection buttons that correspond to the channel that you wish to watch.

NOTE:
Nonbroadcasting station channel or no transmission service. In cases where the transmission from the broadcasting station has stopped or you have selected a channel without broadcasting station, either a noise screen or the transmission of the last station received will appear on the screen, when channel scan feature is engaged.

⑰ Picture-in-Picture Control buttons (SD-P5062/SD-P4562)
Any program source connected to the Projection Monitor can be displayed on the screen simultaneously with any other source. Also, the multiscreen mode (4-subscreen or 9-subscreen) can be selected.

P IN P:	Press to turn the Picture-in-Picture function on and off.
INPUT:	Press to select the input source for the subpicture while in one-subpicture mode.
MULTI:	Press to select the number of subpictures which appear on the screen (1,4 or 9).
SWAP:	When only one subpicture is displayed, press to exchange the position of the main picture and subpicture.
SHIFT:	Press to move the subpicture to a different place on the screen.
STROBE:	Press to select the strobe feature. Be sure to select the multiscreen mode (4-subscreen or 9-subscreen) using the MULTI button.
STILL:	Press to select still screen or normal mode.

Caution:
Do not press any operation button on the Projection Monitor or on the remote control unit while recording is in progress. Signals from the REC jacks may be interrupted shortly, when an operation button is pressed.

SPECIFICATIONS

DISPLAY SECTION

Reception system	American TV standard NTSC system
Screen size	50" (SD-P5062) 45" (SD-P4562/SD-P4561)
CRT	7" High focus CRT x3
Brightness (White peak)	550 (SD-P5062) 620 (SD-P4562/SD-P4561) Foot-Lambert [100 % Window signal input contrast, bright Max.]
Actual viewing angle	Horizontal H = 140° Vertical V= 45°
Horizontal resolution	830 lines (SD-P5062) 770 lines (SD-P4562/sd-p4561) [Input digital test pattern (900 lines resolution)]
Input terminals	2 video input systems, 2 audio input systems
Output terminals	REC OUTPUT (To VIDEO); Video output, audio output (For recording) x1
Input signal	Video signal: 1.0 Vp-p +/– 0.2 V (75 ohms load) Audio signal: 500 mV rms
Input impedance	Video input: 75 ohms +/– 10 % Audio input: 50 kohms or more
Input signal polarity	Synchronized negative
Output terminal signal ratings:	
Output terminals (VIDEO)	Video signal: 1 Vp-p (75 ohms load) Audio signal: 500 mV rms (100 % modulation)
Output impedance	Video output: 75 ohms +/– 10 % Audio output: Less than 1 kohms

TUNER SECTION

Circuit type	Video signal detection: PLL full synchronous detection PLL Digital Synthesizer system Audio multiplex: BTSC system
Reception channels	VHF; CH2~CH13, UHF; CH14~CH69 CATV (STANDARD, AIR or HRC switchable) CATV A-6 CH~CCC (W+29) CH
Antenna terminals	ANTENNA terminal, 75 ohms UNBAL, F-type connector (VHF, UHF MIXED)

AMPLIFIER SECTION

Effective output (both channels driven)	2 W+2 W (THD. 1.5 % 50 Hz to 15,000 Hz, 16 ohms)
Built-in speaker system	10 cm (3-15/16 in) full range x2

ELECTRICAL SECTION, MISCELLANEOUS

Power requirements	AC 120 V, 60 Hz
Power consumption	240 W
External dimensions	
SD-P5062	1142 (W) x 680 (D) x 1313.5 (H) mm 44-15/16 (W) x 26-3/4 (D) x 51-11/16 (H) inch
SD-P4562/SD-P4561	1037 (W) x621 (D) x 1238 (H) mm 40-13/16 (W) x 24-7/16 (D) x 48-3/4 (H) inch
Weight of main unit	
SD-P5062	92 kg (202 lb 14 oz)
SD-P4562/SD-P4561	83 kg (183 lb)

WIRELESS REMOTE CONTROL UNIT

Operation system:	Infrared remote control system
Power source:	Two size "AA" (IEC R6/UM-3) 1.5 V dry cell batteries
Accessories:	Two batteries
Dimensions:	60 (W) x 18 (H) x 190 (D) mm 2-23/64 (W) x 23/32 (H) x 7-31/64 (D) in.
Weight:	88 g (3 oz.) (without batteries)

ACCESSORIES

Operating instructions	1
Warranty card	1
Remote control unit	1
Size "AA" (IEC R6/UM-3) dry cell batteries	2
Important Safeguards card	1

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.